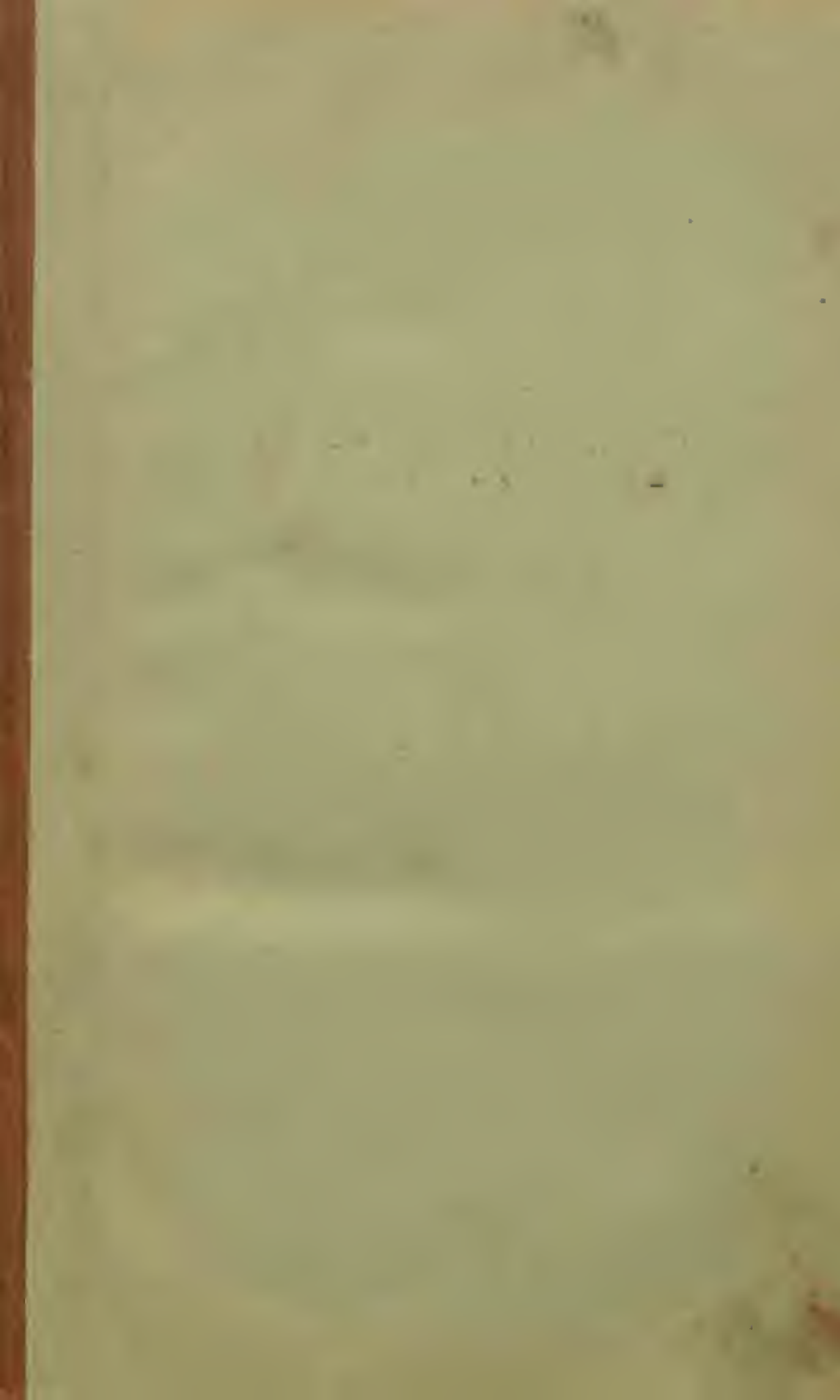


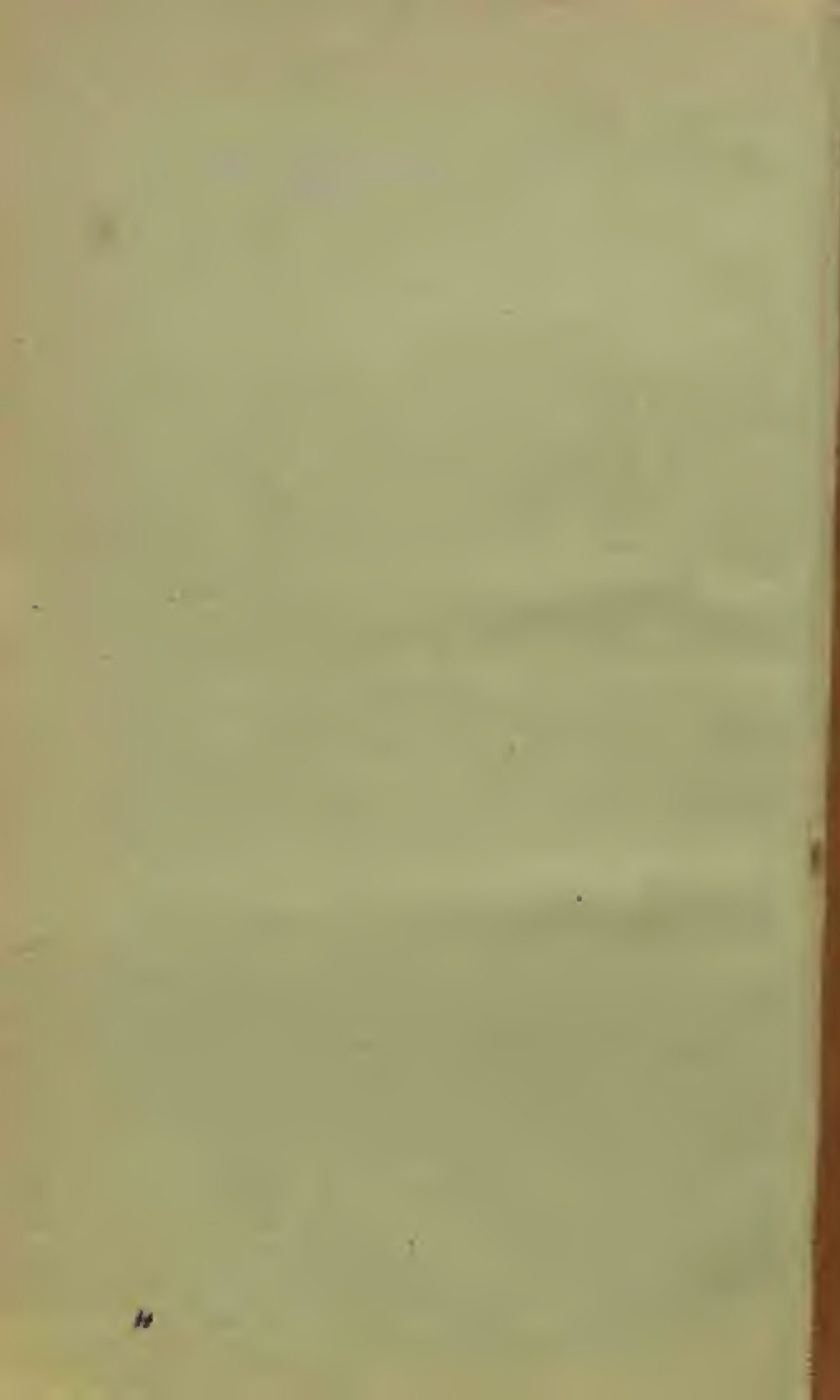
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GAZETTEER

OF THE

KARNAL DISTRICT.

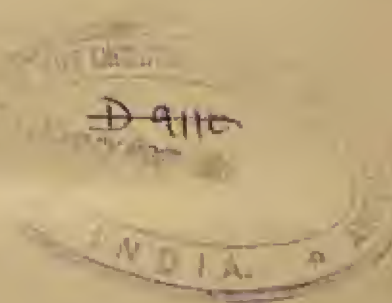
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PREFACE.

THE first edition of the Karnāl Gazetteer was written by Mr. Ibbetson, the Editor of the Series. Mr. Ibbetson settled pargana Karnāl and tahsil Pānīpat, and the information contained in the Gazetteer for that part of the district was very complete. In preparing a new edition in accordance with the orders contained in Revenue Circular No. 62, my chief task has been to supplement Mr. Ibbetson's work by furnishing the necessary details as regards the part of the district, pargana Indri and tahsil Kāthāl, which I settled myself. The publication of the work has been delayed by the pressure of other duties.

J. M. DOUIE.

April 1892.

Table No. I, showing LEADING STATISTICS.

DETAILS.													
Muzal or Tahsil.													
1		2		3		4		5		6		7	
		District.		Karaul.		Pachpat.		Natchal.					
Total square miles (1861)		...	2,303	852	638	1,109	...	...	...	...	...	...	...
Cultivated square miles (1879)		...	1,002	378	288	400	...	...	...	...	...	...	...
Culturable square miles (1878)		...	802	373	81	684	...	...	...	...	...	...	...
Irrigated square miles (1878)		...	381	108	197	84	...	...	...	...	...	...	...
Average square miles under crops (1877 to 1881)		...	334	818	220	307	...	...	...	...	...	...	...
Annual rainfall in inches (1880 to 1882)		...	284	284	217	192	...	...	...	...	...	...	...
Number of inhabited towns and villages (1881)		...	463	329	160	308	...	...	...	...	...	...	...
Total population (1881)		...	627,241	231,004	100,793	294,704	...	...	...	...	...	...	...
Rural population (1881)		...	344,203	150,200	161,571	170,283	...	...	...	...	...	...	...
Urban population (1881)		...	78,038	27,889	25,022	28,419	...	...	...	...	...	...	...
Total population per square mile (1881)		...	269	278	408	183	...	...	...	...	...	...	...
Rural population per square mile (1881)		...	227	246	163	103	...	...	...	...	...	...	...
Hindus (1881)		...	459,002	101,377	157,808	154,282	...	...	...	...	...	...	...
Muslims (1881)		...	8,000	2,004	213	6,283	...	...	...	...	...	...	...
Jats (1881)		...	4,656	1,120	2,828	609	...	...	...	...	...	...	...
Brahmins (1881)		...	106,140	66,747	65,306	41,528	...	...	...	...	...	...	...
Average annual Land Revenue (1877 to 1881)*		...	630,101	177,963	300,709	140,010	...	...	...	...	...	...	...
Average annual gross revenue (1877 to 1881)†		...	700,115	...	...	...	...	...	...	...	...	...	...

* Paid, Revenue, and sub-revenue.

† Land, Tribute, Local rates, Fecies, and Bampes.

Note.—The area of the tract now included in Kathal is 1,280 square miles. Its population in 1881 was 227,322. The total area and population of the present district in 1881 were therefore 3079 square miles and 646,210 souls.

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CHAPTER I.

'THE DISTRICT.'

SECTION A.—DESCRIPTIVE.

1. Karnal, one of the six districts of the Delhi Division, lies between north latitude 29°0' and 30°11', and east longitude 76°10' and 77°16'. It consists of a tract of plain country of somewhat irregular shape, lying on the right bank of the Jamna, including a portion of the valley of that river, and stretching away westwards across the Saraut and Ghaggar into the Eastern Plains of the Panjab. It may be roughly compared to a square, with its south-western corner cut off as belonging to the Native State of Jindh, and with the addition of a small projection running up from its north-western corner northwards towards Patiala. It also includes 30 outlying villages scattered about Patiala territory. Its average length and breadth are 54 and 50 miles; its greatest dimension measured along the diagonal from Rastakhwa Lukman off the Ghaggar to Rakwasht on the Jamna is 80 miles. It is bounded on the north by the Patiala State and the Ambala district, on the east by the river Jamna, which separates it from the Saharapur, Marhassarnagar, and Meerut districts of the North-Western Provinces, on the south by the district of Delhi, and on the west by the Rohtak district and the Native States of Jindh and Patiala. It is divided into three *tahsils*, of which that of Panipat includes the southern, that of Karnal the central and north-eastern, and that of Khatol the western and north-western portions of the district.

2. Some leading statistics regarding the district and the several *tahsils* into which it is divided are given in Table No. I. on the opposite page. The district contains three towns of more than 10,000 souls as follows:—

Panipat	...	...	...	23,723
Karnal	...	...	...	23,123
Khatol	...	...	...	14,774

The administrative head-quarters are at Karnal, situated in the eastern edge of the district, 5 miles from the river, and upon the Grand Trunk Road 47 miles from Ambala and 73 from Delhi. Karnal stands 18th in order of area and 12th in order of population among the 31 districts of the Province, comprising 2·4 per cent. of the total area, 3·4 per cent. of the total population, and 3·2 per cent. of the urban population of British territory.

3. The latitude, longitude and height in feet above the sea of the principal places in the district are shown in the margin.

Town.	N. latitude.	E. longitude.	Height above sea-level.
Karnal	29°00'	77°16'	100
Panipat	29°50'	76°10'	100
Khatol	29°50'	76°10'	100

* Approximate.

4. The district is everywhere flat, and lies about 750 feet above the sea, the height probab-

Chapter I, A.

Descriptive.

General description

Physical conforma-
tion.

Chapter I, A.

Descriptive.

General description.

ly nowhere differing from this figure by more than some 30 feet. There is a very gradual fall from the north-east to the south-west. The distance of the water table from the surface is much affected by the canal and the river. In their vicinity it is seldom greater than 15 feet, and often not more than two or three feet. In the south of Kaithal the depth is as much as 150 feet; on the watershed of the Ghaggar and Sarnati and also between the canal and Chautang the depth is from 25 to 35 feet. In the outlying villages near Patiala it is about 20 feet. There is no real clay, the soil varying from stiff loam to pure sand. The stiffest loam is found in the hollows and drainage lines, where the action of the water has washed out the sandy particles. It is sometimes known as *dohar* and is differentiated by the clods not crumbling in the hand. The sandiest soil is found in the riverain tract, chiefly in patches lying in the beds of old river channels, and in the Powadh tract to the north of the Ghaggar, where sand hills blown up by the wind are not uncommon. Sandy land is called *bhuda* in the Khadir and *tibbi* in the Powadh. Intermediate soils are classed as *rausali* and vary in quality between the two extremes. Another common division is into *magra* and *dohr*. The former is the higher land where rain does not lie and the soil is not excessively stiff; the latter the depressions in which rice is grown, and where the soil is very hard.

The Khadir.

5. The tract is divided into two parts by the great back-bone of Northern India, which separates the water system of the Indian Ocean from that of the Bay of Bengal. This watershed runs north and south at a distance of from six to twelve miles from the river, and is almost imperceptible to the eye. It runs close under the city of Karnal and thence follows the line of the most eastern of the new canal Rajbaha (No. IV). To the east of, and generally within a mile or two of the watershed, lies the bank which marks the western limit of the ex-cursed of the Jamna. All to the east of this bank is known as the Khadir, and is low-lying riverain tract, with light soil and water close to the surface, and largely in the hands of industrious cultivators. It is bounded to the east by the broad sandy bed in which the river runs; and the Jamna has swept over the whole of it within comparatively recent times. The drop at the bank is often ten or twelve feet; and the land immediately below the bank is usually somewhat lower than that at the river edge. The general slope southward is about one-and-a-half feet per mile. There is little heavy jungle except on the upper portions of the river where the banks are fringed with *jânu*; but date-palms and mango groves abound, other trees are scattered about profusely, and the luxuriant cultivation and the frequent wells make the Khadir perhaps the prettiest part of the district.

The Bangar.

6. To the south of Karnal the land lying to the west of the Khadir is called the Bangar. But it is divided into two parts by a well-marked drop which runs from near Karnal in

the north-east to the south-west corner of the district, and is defined almost exactly by the Harnal road, which runs along its crest, and the old Rohilak branch canal which flows below it. This drop and the Khadir bank, already referred to, meet a little above the town of Karnal, and it is the triangular tract that lies between them that is more especially known as the Bangar proper, in contradistinction to the Nardak or high tract beyond the drop.* It is watered by the Western Jamuna Canal almost throughout its area. The soil, where not rendered barren by salts or swamp, is stiff and fertile, and it is in the hands of industrious agricultural castes. The general slope is about one-and-a-half feet per mile southwards, and one foot per mile westwards, the slope decreasing as you go south. Where the Bangar, Nardak, and Khadir meet near Karnal, the Nardak drop splits up into several steps which lead imperceptibly from the Nardak to the Khadir, so that the Nardak and the Khadir may be said to meet near Karnal. Mango groves are not uncommon, but other trees are thinly scattered about. As the neighbours say, land is so scarce and valuable that the very ridges between the fields are set up on edge; and the Bangar tract is for the most part a sheet of cultivation, interspersed with great swamps and large barren plains covered with saline effluences. The Indri pargana, which lies to the north of Karnal, is divided into Khadir, Bangar, and Nardak. The Bangar is the tract between the canal and Chautang where well cultivation is largely practised and the soil is hotter than in the Nardak beyond the Chautang.

7. To the west of the Chautang and of the drop, described in the last paragraph, lies the Nardak, another name for the Kurukshetra or battle-field of the Pandavas and Kauravas of the Mahabharata, which lay on this great plain. It consists of a high table-land which runs away with ever-increasing aridity towards the prairies of Hariana which are locally known as the Bagar. Its limits may be defined by a line drawn from Thanesar to Tik, thence to Saldon in Jindh, thence to Karnal, and from Karnal round again to Thanesar. To the west of the Nardak proper, but forming part of the same great table-land is the Kaithal Bangar, including some 60 villages of the Kaithal and Kuthana parganas. The soil of the Kaithal Bangar is usually a strong loam, but it is lighter on the whole than that of the Nardak. But the tribal distinction is more important. The land-owners are mostly Jats in the Bangar and Rajputs in the Nardak, the larger areas of waste which the Rajput keep up are very rarely found in the Bangar, and notwithstanding its untractable soil and the fact that irrigation is rarely possible two-thirds of the cultivable area is under tillage. The Nardak proper is a high acid tract with water at great

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Descriptive.

The Bangar.

The Nardak and
Kaithal Bangar.

* Bangar is locally used, with a purely relative meaning, for higher and more acid land. Thus a village in the Khadir will call a high-lying portion of its area its Bangar.

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Descriptive.

Nardak and Kathal Bangar.

depths, having about $\frac{1}{3}$ rd of its area cultivated and little irrigation. It is largely occupied by cattle grazing Rajputs, but there is an admixture of industrious Hars. In the north of the Nardak or the part of it which is included in the Indri and Pehowa parganas, Hars form the most important element in the population, and, partly on this account and partly because the water level is not there too deep to prevent hardworking husbandmen from using wells, cultivation is more largely extended than in the Kathal and Kathal Nardak. The Nardak is conspicuously a grazing country consisting of high open plains covered with dal, Jand, and Kair and affording excellent pasturage in years of good rainfall. Dhak is abundant in parts, especially in drainage lines. The large trees are almost entirely of the fig tribe. The uniformity of the grassy glades is broken by cultivation and by local hollyhwa (Dahar) fringed with dhak and pipal, in which water collects and produces a dense growth of coarse grasses. Only a few estates in the south of the Nardak and Kathal Bangar are at present irrigated from the Hausi branch of the western Jamna Canal, but the projected Sirsa Canal and Rajbaha No. 1 from the main Canal will protect a large part of this tract from the droughts which have made its cultivation so insecure.

The Nulli.

8. The unhealthy country in the north of the Kathal tahsil inundated by the capricious floods of the Sarasti, Umla, and Ghagar is known as the Nulli.

The Nulli of the Umla and Ghagar is chiefly owned by Jats, and the Sarasti Nulli by Rajputs. But though the former has a better agricultural population its natural advantages are less, and, owing to disease and over-assessment, the condition of the population has been a very miserable one. In the Umla villages, nearly the whole of the flooded land consists of hard dahr, in which coarse rice is the principal, and often the only crop. The grazing is miserably poor. In the Ghagar Nulli, the flooded land is partly dahr and partly stiff loam. Owing to the extreme uncertainty of the floods, cultivation is rough and intermittent, and the troublesome dab grass is very imperfectly cleared out. The floods of the Sarasti are most capricious, but not so utterly uncertain as those of the other two streams. There are two recognized nulls in the Sarasti villages, Dahan and Kat. Dahan is the low-lying land which yields rice followed by a poor crop of gram in a good year. The rice is very liable to be drowned, but lies higher and consists of a stiff loam which in its natural state is covered with dhak and dab jaugul mixed with scattered pipals. As a rule the kat does not yield autumn crops and the tillage for the Rabi is therefore rough, for the land can only be ploughed at all immediately after a heavy flood. If once the surface dries, nothing can be done with it. If the kat is well flooded at the close of the summer rains and the winter rains do not fail, it yields excellent crops of gram,

jauchana, and even wheat. There is much more *kat* than *dehan* in the Sarauti villages, and two-thirds of the crops belong to the spring harvest. There is abundant coarse *dah* and *panni* grazing, and in the worst season grass of a sort is to be got.

9. A small upland tract between the Sarauti valley and the Ghagar is called the Andarwar. The soil is similar to that in the Bangar, but well-irrigation is largely practised. The uncultivated land is of the poorest quality and yields little grass. To the north of the Ghagar is the Powadh with a light loam soil and many wells.

10. The Jamna meets the district at Chauganwa, and thence forms its eastern boundary for 78 miles till it passes on to the Dehli district. Its bed varies from half-a-mile to a mile in width, of which the cold weather stream only occupies a few hundred yards. The bed is, of course, sand throughout, and the subsiding floods leave sand banks which change annually. The banks vary immensely in character. Where the river has at one time swept over the spot where the bank now stands the edge is low and sandy; where, on the other hand, the stream has gone round the piece of land which now forms the bank, the latter is perpendicular and often 20 to 30 feet high. In the southern portion of its course the banks are for the most part high and well-defined. Generally speaking, the shelving banks are cultivated; they yield, however, a minimum of produce. The higher banks are fringed with dense *jhau* jungle on the upper portion of the stream. But from Panipat downwards they are cultivated up to the very edge; and their fall often means ruin to individual land-owners. The Jamna is by no means so capricious in its course as are the Panjab rivers. The present tendency of the river is very slightly to the eastwards; and it has, within the last few years, changed its channel just below Karnal, so that eight villages formerly lying to the east of it are now included in the Karnal district. Its present action is almost wholly for the bad. Its floods deposit sand for the most part; and the thin skin of loam that sometimes covers it requires a long course of self-sown *jhau* before it is worth cultivating.

11. The Khadir, especially in the northern part, is much cut up by old river channels (*khatas*), and when the Jamna is in flood, the water passes down these channels into the lower land and does much harm by flooding the fields. The largest of these channels runs almost directly under the Khadir bank, and is known as the Burhi Nadi, or Ganda Nala. It receives the drainage of the Bangar east of the watershed, and often swamps the country round. The Parah is an old bed of the Jamna which leaves the present river at Bindawali and flows S.-W. passing through Kurjpara. Below Chhapra it runs due S. and finally rejoins the Jamna. The Buddhakhora Canal escapes meets the Parah at Chhapra and the villages

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The Nadi

The Andarwar and
Powadh

The Jamna

Minor
Khatas. Drainage

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Descriptive.

Minor drainage
Dra.

below the junction have deteriorated very much from overflooding. At the date of the battle of Panipat (1761 A.D.) the Purna was the main bed of the Jamna. In the Bangar the principal drainage is that running under the Nardak drop and occupied by the old canal, and, in its lower course, by the Rohtak branch. Minor local drainages intersect the area between this and the watershed, and empty into this main drainage; but they are very broad and shallow, and are often only perceptible by their effect upon the cultivation. The Rakshi has its origin in the north of the Jagadhri Tahsil of Ambala. Before it reaches the border of Karnal, most of the water is diverted into the Chautang, and in Karnal the Rakshi is now a very insignificant stream whose bed has in many places almost entirely disappeared. The Nas Nadi which runs through Tinari in the Indri pargana and which can be traced through the Nardak as far as Salwan in the S.-E. of Kuthal is probably the old bed of the Rakshi. But most of the water that reaches it is now derived from a channel which leaves the Chautang at Nilokheri and joins the old Rakshi at Narana.

The Chautang.*

12. The Chautang is formed by the junctions of two sandy torrents which rise in or near the hills and unite at Balchhapar in the Jagadhri tahsil of Ambala. After crossing the eastern part of the Ambala district it enters Karnal at Jhinwar-hari. But higher up its water has been diverted into the Sarani. On the other hand the Rakshi has been turned into the Chautang a few miles beyond the Karnal border. Its course is south and south-west. At first it skirts the edge of the Bangar and Nardak, but lower down it runs through the heart of the Nardak, and is finally taken up by the Hansi Canal which occupies its lower bed all the way to Hansi and Hissar. For the first few miles after it crosses the Karnal border, it flows in a broad and shallow sandy bed, but its channel soon assumes the canal-like appearance characteristic of hill streams which have dropped all their silt. The straightness of part of its bed and the fact that in Karnal it has practically no catchment basin, and at first runs nearly along the crest of the watershed which divides the Bangar and Nardak, give some colour to the tradition that it is an artificial channel and formed part of the old Imperial Canal system. In the Nardak its banks are generally fringed with dense jungle in which a leopard was shot in 1871. In Kuthal the course of the Chautang is often only marked by a slight depression on the surface of the country, but doubtless it was once an important stream, for Mr. Donis found near its banks in Thal an old well re-excavated, in which the water level is now 150 feet, but the old masonry cylinder only went down to a depth of 50 or 60 feet.

* This stream is identified by St. Martin with the ancient Drishadvall. Heu makes the Kurukshetra lie outside the Sarani and Drishadvall Dohi, while the Mahabharata places it between the two rivers. The Sarani is very commonly identified with the Ghaggar; and by others including General Cunningham, with the Rakshi.

13. The north-west portion of the district is traversed by the Ghagar and its tributaries, the chief of which are the Umla and the Sarasti. In the Ambala district the Ghala has a wide sandy channel, and deposits fertilizing silt. By the time it reaches the Kaithal border it has dropped nearly the whole of its silt, and its waters find their way along various old channels, and finally join the Ghagar near Bhagal. The Ghagar flows west and south-west near the northern border of the Kaithal tahsil to Rattakhera Lakmana where it is joined by the Patiala Nadi. Below this point it flows south on or near the boundary of Kaithal, which it re-enters at Ujhana. A mile or two lower down it leaves the district finally, and soon after is joined by the Phum branch of the Sarasti. At Bhagal, the Ghagar is very wide and deep, and rarely overflows its banks, but further west the channel is not quite so large, and in favorable years a considerable number of villages is flooded. The inundations are utterly precarious. The Ghagar has two important tributaries in Kaithal, the Untarwali and Patiala Nadis. The former has two branches, one running to Kutraan in Patiala, and the other to Arnauli in Kaithal, and thence through the north-east corner of the Nahi, till it joins the Ghagar at Dhandawala. The Patiala nadi takes its name from the fact that it passes close to the town of Patiala. Thence it flows south through the Powadh tract till it joins the Ghagar. A channel known as the Parau, or old Ghagar, leaves the present stream at Dhandawala, and runs south-west to Gula, where it splits into two branches, one going west and the other south-west, and both ultimately rejoining the Ghagar. Its bed is much silted up, and it is difficult to believe that the Ghagar once flowed in it. But there is no doubt of the fact, for we know from history that Timur's army in 1398 or 1399 crossed the Ghagar by the curious old stone bridge at Gula (Elliot's *Indian Historians*, Vol. III, page 430). All accounts show that 50 years ago the Ghagar was much smaller and shallower, and therefore more easily controlled than it is now. A band was put up by the Sikhs every year at Tatinia, which must have done much to secure the proper flooding of the villages depending on the Parau, which are now in a very depressed state. The work of deepening the first five miles of the Parau has now been carried out, and this will probably do a good deal to help the Ghagar Nahi, a wretched tract which fluctuates between draught and drowning. There is a ferry over Ghagar at Tatinia, but boats are only required for a few months in the year.

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Umla and Ghagar.

14. The Sarasti, the most sacred river in Northern India after the Ganges, does not rise in the hills, but begins in a large depression in the north of the Mustafabad pargana of Jageshri. For the first 20 miles of its course, it is utterly insignificant, its channel being frequently only marked by a shallow depression on the surface of the ground, and being often lost entirely. Like the Brahmans who trade on its sanctity, it lives on the

The Sarasti.

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Descriptive.
The Sarauti.

contributions of its neighbours. It is only after the Chaulang joins it at Bhaini that it acquires a continuous channel, and is worthy of being called a stream. The Choya, the Betou, and the Linda, which are probably old channels of the Markanda, join, and the united stream, known as the Linda, falls into the Sarauti near the border of the Karnal district. A few miles lower down at Urnai, the Markanda pours its waters into the Sarauti. The channel cannot contain the heavy Markanda floods, and in the rains the country to the east of Pehowa is converted into a great lake. At Pehowa the channel again becomes well defined, and thence it runs west and south-west to the border of Patiala. Near Pehowa a large dam diverted the water into the Bikhariwala Khand, a channel originally dug by Bhair Lal Singh to feed the sacred Bidkhar tank at Kalihal. This embankment, which did much damage to the lower Sarauti villages, was opened a few years ago. At Guldara a branch known as the Baha strikes off to the south-west, and its water is prevented from returning to the main channel by a strong earthen dam, or rather series of dams, erected at Manghu, and forced over the lands of the Nalli villages in the neighbourhood of Nawach. The old bed of the Sarauti has become silted up at Guldara, and is 4 or 5 feet above that of the Baha, the size of which has increased of late years. The Baha now takes all the water in small floods. The result is that the seven or eight Baha villages seldom lose their spring harvest, but the people inhabiting them are rapidly dying out from the effects of over-flooding. The Lower Nalli villages, on the other hand, do not get their fair share of the water except in good years when every body has as much as, or more than, they want. At Kakewar, a few miles lower down, an important channel takes off to the north-west and fills the great jhat between Papar and Kakheri. The overflows of this marsh run down a shallow bed known as the Nai Nali into another large jhat in the south of Bhuna. This in its turn spills in high floods into the Phara, which will be noticed presently. The main channel continues to run westward and passes through the north of the great Rajput estate of Sirana, for the irrigation of which an important embankment known as the Polar Band, is thrown across the bed of the stream. Near this band there are remains of an old bridge, which Timur must have crossed on his march to Delhi. At Sair, a mile or two lower down, a branch called the Phara breaks away to the north-west, and, after following a winding course for ten or twelve miles, leaves the tahsil at Kharak and soon afterwards falls into the Ghaggar. The bed of the Phara at its mouth is not large, but, besides the water taken direct from the Sarauti, it receives the drainage of the whole valley to the north of that river, and, before it quits the tahsil, it is a very deep and wide stream of the same character as the Ghaggar itself. It has become much larger since last settlement, and is now in fact the main channel, and in high floods is a violent torrent which it is very difficult to control. Ten or eleven of the Nalli villages depend on the Phara, and

its offset, the Baha, but their irrigation is a hard problem, as it is difficult to prevent all the water from escaping uselessly into the Ghagar. Even in ordinary floods the Phars would draw off the whole of the Sarasti water, were it not for a small kucha dam called the "Bawali" that is, "mad," thrown across its mouth. The maintenance of this embankment is of great importance for the irrigation of the estates, about ten in number, on the lower Sarasti, but it is often broken by the force of the floods. Below Sair the Sarasti proper has a very petty channel, and on the Patiala border its bed consists of a depression a foot or two below the surface of the country, and an insignificant embankment at Andhli, known as the Belak band, prevents any water from reaching the Patiala villages in ordinary years. The irrigation on the Sarasti is managed by a system of dunes and cuts. Above Siwan there is usually enough water to fill the cuts and flood the lands without blocking up the main stream. But below Siwan, almost every estate has its own little dam thrown across the channel to force water into the cuts. A good deal could be done by local effort to improve the present wasteful system of irrigation and to check the disease consequent on water logging.

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Descriptive.

The Sarasti.

15. The drainage of the central portion of the Karnal and Panipat tahsils finds its way into the Chautang. To the east of this the country falls towards the Jamna and the old Western Jamna Canal and its minor branches, cutting the lines of drainage at right angles, caused extensive swamping. (See also in Appendix). Thus the old canal was fringed by an almost continuous series of *jhils* of large extent, many of which retained water throughout the year. They were not of sufficient importance to be dignified by the name of lakes, but were of quite sufficient size, very seriously to diminish the capabilities of the villages on whose lands they trenched. The land on the edges was extensively cultivated with rice, and, when the water neither rose so high as to drown the young plant, nor fell so low as to leave it to dry up, heavy crops were obtained. The draining of these swamps has been undertaken in connection with the re-alignment of the old Canal and the ultimate result should be a great improvement in the health of Canal villages. The *jhils* formed by the spill water of the Sarasti have been noticed in the last paragraph.

Jhils, and swamps.

16. The Western Jamna Canal* enters this district from Ambala about 25 miles north-east of Karnal. It flows below the bank which separates the Khadir and Bangar, as far as Ludri, where the new line enters the Bangar. The old Canal ran

The Western Jamna Canal.

* The history of this canal is given at length in the Provincial volume of the Gazetteer series. See also Appendix to the present work.

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The Western Jamuna
Canal

through the Khadir in a point four miles below Karnal, where the Grand Trunk Road crosses it by an old Mughal (Badshahi) bridge, and the canal itself entered the Bangar. From this point it held a south-west course for some 18 miles till near the village of Rer, the Hansi branch struck off westwards *vis* Safidon, and, occupying the bed of the lower Chautung, flowed on to Hansi and Hisar. From Rer the Delhi branch ran south to Delhi. About ten miles below Rer, another branch struck off south-westwards towards Rohtak, and a few miles beyond this, just upon the confines of the district, a third branch went to Butana. The main line as now remodelled runs through the Bagar from Indri to Munak crossing the Grand Trunk Road a few miles to the north-west of Karnal. It splits at Munak into two branches, the one running to Delhi and the other to Hansi and Hisar. The important Rohtak and Butana branches take off from the Hansi Branch. All of these branches are used for irrigation in the district, and channels from one or another of them penetrate to all parts of the tract described as the lower Bangar. It would appear that the canal was first taken to Hansi by Firoz Shah in 1355 A. D., and carried on to Hissar next year; and that he took about, or 10 per cent. on the yield of the irrigation as water rate. But it very quickly ceased to run as a canal; for Timur, in 1398, must have crossed its channel between Panipat and Kuthal; and his very minute Itinerary makes no mention of it; while Bahar, 200 years later, expressly stated that there were no canals west of the Jamuna. In Akbar's time Shahabuddin Ahmad Khan, Governor of Delhi, repaired it. In 1648 Shah Jahan again set it in order, and carried it on to Delhi for his Lal Kila. In 1739 Nadir Shah found it in full flow; but it must have ceased to run almost immediately after this, in the terrible times that followed his invasion; and when we took the country in 1805 it had long silted up almost entirely.

In 1815 its restoration was begun; and the Delhi branch was opened in 1829, since which date its irrigation has steadily extended. An account of the growth of irrigation and of the attendant evils is given in the Appendix while the history of the canal as a whole is fully described in the Provincial volume of the Gazetteer. The effect of the old Western Jamuna Canal for good and evil upon the tract which it traversed were great beyond description. While it brought prosperity to the people as a whole, and saved them from the horrors of famine which will presently be described, it, partly by its faulty alignment, but perhaps even more by placing within their reach water which they had not the wisdom or the knowledge to use sparingly, brought ruin to too many. The description given in the Appendix will show how terrible that ruin has been. In 1867 it was decided to re-align the canal and its distributaries; but for various reasons the scheme hung fire. An estimate for remodelling the canal amounting to 72 lakhs was sanctioned in

1874. This was increased to 97 lakhs in 1877 and 102 lakhs in 1881. In 1885 a full supply was carried in the new main channel, and by 1886 the least works and most of the works on the canal itself and its principal branches had been finished. The new distributaries and the drainage works are only now being completed. A large distributary (Rajbaha No. 1) will be carried through the Karnal and the worst part of the Kaithal Nerdek, affording protection to one of the most insecure parts of the district. The first suggestion that a branch of the Western Jamna Canal might be carried to the arid uplands of Kaithal was made by Major (afterwards Sir) Henry Lawrence in 1843, but the project for the construction of a canal from Indri to Sirsa has only recently been taken in hand. The estimate which amounts to 42 lakhs, was sanctioned in 1889. The canal will command an area of 1373 square miles, of which 440 are in Karnal, 355 in Patiala, and 508 in Hissar. 21 per cent. of the area commanded will be irrigated, and the annual addition to the irrigated area in Karnal may be expected to extend 50,000 acres, nearly the whole of which will be in the Kaithal uplands. The Sirsa branch is primarily designed for the irrigation of autumn crops, but there will in ordinary years be sufficient water to prepare a considerable area for the rabi, and in years of heavy rainfall, when the demand during the winter months is slack on the present canal, the water, which would otherwise run to waste, will be readily taken in Kaithal and Hissar. The irrigation of rice crops from the Sirsa Branch will be forbidden, and it is to be hoped that this prohibition will be rigorously enforced. It might be extended with advantage to the Nerdek Rajbaha No. 1 from the Main Canal.

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Descriptive.

The Western Jamna Canal.

17. The Choya branch of the Sirhind Canal has been carried through the Pownath, a tract already watered by wells, and where Canal irrigation is likely to do much more harm than good.

The Sirhind Canal.

18. The average rain-fall at Karnal is 31 inches, and at Panipat 26, and at Kaithal 17 inches. The fall rapidly decreases as we go southwards, and westwards. The Rhadar receives the most plentiful and most frequent rain, many local showers following the course of the river. Table

Rain-fall, temperature, and climate.

Year.	Total of an inch.
1860-61	227
1861-62	200
1862-63	231
1863-64	211

No. III shows in tenths of an inch the total rain-fall registered at each of the rain-gauge stations in the district for each year, from 1866-67 to 1882-83. The fall at head-quarters for the four preceding years is shown in the margin.

The distribution of the rain-fall throughout the year is shown in Tables Nos. IIIA and IIIB, and in more detail in the figures inserted below; while the average temperatures for each month from 1870 to 1878 are shown below in degrees Fahrenheit.

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Rain-fall, temperature, and climate.

Average of the thermometer (Fahrenheit) for the year 1870-73, recorded in the west verandah of the dispensary at Karnal.

Month.	At Sunrise.		At Noon.	
	Maximum.	Minimum.	Maximum.	Minimum.
January	64	42	72	61
February	64	50	77	62
March	71	65	84	72
April	80	69	89	79
May	88	70	100	81
June	91	78	104	89
July	93	77	102	87
August	86	62	97	83
September	84	70	90	80
October	75	63	86	77
November	61	46	73	70
December	43	31	74	63

Rain-fall at Karnal in inches.

Year.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Total.	Total according to returns of Canal Department as registered at Karnal.
1862-63	0.1	...	0.7	12.0	8.9	13.4	0.2	0.1	...	1.9	...	1.0	20.2	...
1863-64	0.6	...	7.4	23.8	10.1	3.6	8.3	0.1	0.2	0.2	0.0	0.3	48.3	...
1864-65	0.3	1.0	0.8	5.4	8.6	2.4	...	...	0.1	0.7	1.2	4.8	24.1	22.9
1865-66	0.1	0.4	1.0	4.7	11.0	4.0	...	...	1.0	0.6	0.4	...	22.4	27.3
1866-67	0.2	...	3.2	6.9	4.2	0.2	0.9	...	...	0.3	0.3	0.4	12.1	16.9
1867-68	0.6	0.0	2.4	7.0	13.1	2.8	...	...	0.0	1.8	1.9	1.0	35.0	22.0
1868-69	0.7	0.7	1.1	4.6	0.1	1.8	...	...	...	3.1	7.2	4.2	16.9	18.1
1869-70	...	...	...	...	...	...	0.6	...	...	...	0.2	...	19.0	17.9
1870-71	0.7	0.0	5.2	0.1	6.0	5.0	...	...	...	1.1	4.8	...	32.1	25.0
1871-72	0.4	1.9	3.1	10.1	3.8	1.4	...	...	0.3	4.8	0.1	0.0	32.1	26.0
1872-73	0.2	0.0	8.2	12.7	7.3	2.1	0.1	...	0.3	0.8	0.1	0.3	32.0	31.2
1873-74	...	...	...	...	...	...	...	...	0.6	0.1	0.4	1.8	45.9	30.4
1874-75	1.1	7.0	18.7	0.4	7.1	...	...	...	0.7	0.3	4.7	...	49.1	33.7
1875-76	...	...	...	...	...	...	...	...	...	...	...	...	38.1	27.1
1876-77	0.8	1.2	0.8	9.2	3.4	1.5	...	...	...	3.7	3.0	1.1	31.9	28.2
1877-78	0.8	0.0	0.0	2.7	0.0	0.8	2.1	0.4	...	3.1	7.3	1.6	34.0	24.2
1878-79	4.0	3.0	0.4	2.8	10.4	1.8	...	...	0.8	...	0.0	0.0	34.0	22.0
1879-80	...	...	...	...	...	...	...	...	...	0.1	2.8	...	23.0	22.8
1880-81	...	...	...	...	...	...	...	...	...	...	...	...	31.4	34.6
1881-82	...	...	...	...	...	...	...	...	...	...	...	...	30.0	27.2
1882-83	...	...	...	...	...	...	...	...	...	...	...	...	28.0	18.8
1883-84	0.1	1.1	...	...	...	...	...	...	...	...	...	...	17.4	1.7
1884-85	...	...	...	...	...	...	...	...	...	...	...	...	44.7	26.7
1885-86	...	...	...	...	...	...	...	...	...	...	...	...	31.6	31.1
1886-87	...	...	...	...	...	...	...	...	...	...	...	...	27.4	24.0
1887-88	...	...	...	...	...	...	...	...	...	...	...	...	45.7	42.3
1888-89	0.4	1.1	0.8	13.2	5.0	11.4	0.7	0.8	...	1.6	1.8	...	36.7	32.9
Average	0.8	1.1	2.8	9.8	4.0	4.8	0.4	0.1	0.6	1.8	1.1	1.0	30.7	26.7

19. Tables Nos. XI, XII, XIII and XIV give annual and monthly statistics of births and deaths for the district and for its towns during the last 13 years; while the birth and death rates since 1868, so far as available, will be found in Chapter III, A. for the general population, and in Chapter VI under the heads of the several large towns of the district. Table No. XH shows the number of insane, blind, deaf-mutes, and idiots as ascertained at the census of 1881; while table No. XXXVIII shows the working of the dispensaries since 1877. The Civil Surgeon (Dr. Cookson) thus discusses the disease and sanitation of the district:—

"Malarial fevers, dysentery, and enlargement of the spleen are the most prevalent diseases. Stone in the bladder is not uncommon. Ophthalmia, syphilis, and itch are very common in the towns. Scoury, leprosy, and elephantiasis are very rare; guinea worm and tape worms occasional. In the winter months there is much pleurisy; pneumonia and bronchitis are also prevalent at that season. Asthma is very common, particularly among tradesmen, as the weavers and silver-smiths suffer much. The malarial fevers are the worst in those parts of the district where rice cultivation is carried on, and where there are extensive marshes; thus, the dwellers near the chain of swamps caused by the Western Jamna Canal, and the inhabitants of the tracts every year flooded by the Saraiel, are the greatest sufferers. Something has been done towards improving the large towns, and there is a perceptible fall in the death-rate. In the rest of the district, with the exception of a few dams for retaining drinking water for cattle, I have not seen any works of the improvement of their land done by the owners; and those works, which in civilized countries have been done by successive generations of occupiers for the improvement in value and healthiness of their holdings, all remain to be done. Enlargement of the spleen is, when excessive, usually accompanied by sterility."

The dwellers in the over-flooded tracts have a miserable physique, and it is probably only due to their marriage customs, which favour the introduction of new blood, that they continue to exist.

SECTION B.—GEOLOGY, FAUNA AND FLORA.

20. Our knowledge of Indian geology is as yet so general in its nature, and so little has been done in the Panjab in the way of detailed geological investigation, that it is impossible to discuss the local geology of separate districts. But a sketch of the geology of the Province as a whole has been most kindly furnished by Mr. Medlicott, Superintendent of the Geological Survey of India, and is published in *extenso* in the Provincial volume of the Gazetteer series, and also as a separate pamphlet.

21. The only mineral products are kankar and sal ammoniac; the former is plentifully found in most parts of the district, generally in the nodular form, but occasionally com-

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Geology, Fauna and Flora.

Disease.

Geology.

Mineral products.

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packed into blocks. Sal ammoniac is made only in the Kaithal *tahsil*; and the following account of its manufacture is taken for the most part from Mr. Baden-Powell's *Punjab Products*.

Sal ammoniac.

22. Sal ammoniac or *maushadar* is, and has been for ages, manufactured by the *kumhars* or potters of the Kaithal *tahsil*. The villages in which the industry is carried on are as follows:—Manna, Gumthala, Sirana Sirgidian, Barna, and Bindraua. About 2,300 *manads* (84 tons) valued at Rs. 24,500 are produced annually. It is sold by the potters to the Mahajans, who export it to Bhiwari and Dabli, to Farrukhabad and Mirzapur in the N.-W. Provinces, and to Ferozepur and Amritsar in the Punjab, and who also sell it after sublimation on an average at Rs. 15 per maund.

The salt is procured by submitting refuse matter to sublimation in closed vessels in the manner described below, which is similar to the Egyptian method. The process is as follows:—From 15 to 20,000 bricks, made of the dirty clay or mire to be found in certain ponds, are put all round the outside of each brick kiln, which is then heated. When the said bricks are burnt, there exudes and adheres to them the substance from which *maushadar* is made; this matter is produced by the heat of the kiln in the hot weather in three days, in the cold weather in six; in the ruins no *maushadar* is made. On the bricks producing this substance, which is of a grayish colour, and resembles the bark that grows on trees, they (the bricks) are removed from the kilns, and, when cool, this crust is removed with an iron scraper or other such instrument. The substance which is thus produced is of two sorts; the first kind, which is most abundantly produced, and is inferior, is designated the *sutti kham* of *maushadar*, and the yield per kiln containing 15 to 20,000 bricks is about 20 or 30 *manads*; it sells at 8 annas per maund; the superior kind, which assumes the appearance of the bark of trees, is called *paperi* and the yield of it per kiln containing 15 to 20,000 bricks is not more than 1 or 2 *manads*; it is sold at the rate of Rs. 2 or 2½ per maund. The Mahajans who deal in *maushadar* buy both the sorts above described; but each sort requires special treatment to fit it for the market. The *kham* *sutti* is first passed through a sieve, and then dissolved in water and allowed to crystallize. This solution is repeated four times to clear away all impurities. When this has been accomplished, the pure substance that remains is boiled for nine hours; by this time the liquid has evaporated, and the resulting salt has the appearance of raw sugar. The *paperi* is next taken and pounded finely, after which it is mixed with the first preparation, and the whole is put into a large glass vessel made expressly for the purpose. This vessel is globular, or rather pear-shaped, and has a neck 2½ feet long and 2 inches round, which is closed at the mouth, or, more properly speaking, has no mouth.

The composition to be treated is inserted into this vessel by breaking a hole in the body of the vessel, just at the lower end of the neck. This hole is eventually closed by placing a piece of glass over it. The whole vessel (which is thin black coloured glass) is incased over with seven successive coatings of clay. The whole is then placed in a large earthen pan filled with *nauhadar* refuse to keep it firm; the neck of the vessel is further enveloped in a glass cover and plastered with fourteen different coatings of clay to exclude all air, and the whole concern is then placed over a furnace kept lighted for three days and three nights, the cover being removed once every twelve hours in order to insert fresh *nauhadar* in the form of raw sugar, to supply the place of what has been sublimed. After three days and three nights the vessel is taken off the furnace, and when cool, the neck of it is broken off, and the rest of the vessel becomes calcined. Twice twelve sars, according to the size of the neck of the vessel containing the *nauhadar*, are then obtained therefrom, of a substance which is designated *phali*. This *phali* is produced by the sublimation of the salt from the body of the vessel and its condensation in the hollow neck. There are two kinds of *phali*; the superior kind is that produced after the *nauhadar* had been on the fire for only two days and two nights, in which case the neck is only partially filled with the substance, and the yield is but 5 or 6 seers, and sold at the rate of Rs. 15 per mound; the inferior kind is where the *nauhadar* had been on the fire three days and three nights, and the neck of the vessel is completely filled with *phali* when it yields 10 or 12 seers, and the salt is sold at Rs. 12 per mound. That portion of the sublimed *nauhadar* which is formed in the mouth and not in the neck of the vessel, is distinctively called *phul*, and not *phali*; it is used in the preparation of *surma*, and is esteemed of great value, selling at Rs. 40 per mound. Each furnace is ordinarily of a size to heat at once seven of these large glass vessels containing *nauhadar*. *Nauhadar* is used medicinally, and as a freezing mixture with nitre and water; also, in the arts, in tinning and soldering metals and in the operation of forging the compound iron used for making gun barrels by native smiths.

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Sul ammoniac.

23. The dense jungles in the northern parts, and the presence of the canal with its attendant *phals* towards the south, make Karnal an unusually good sporting district. Throughout the jungles of the Kaithal high-lands and bordering on the Jind territory, black buck, *silgai*, and *chikara* abound. The first, in fact, is common throughout the district, frequenting the cultivated parts while the crops are sufficiently young to tempt it there, and retreating to the thickets during the interval of seed time and harvest. In Kaithal black buck are especially numerous and of infinite mischief. The *silgai* and *chikara*, on the other hand, are only found in the densest jungles, notably on the banks of the Chautang, never appearing in the lower and cultivated lands. The hog-deer

Wild animals, sports.

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Wild animals: sport.

is not infrequent in swampy parts and along the river; and pigs abound wherever there are *jhils* for them to root in. Grey partridges swarm throughout the jungle, and, in smaller number, in the cultivation, though it is a peculiar fact that they are never found in any Khadir village the area of which is subject to inundation by the river. Black partridges are occasionally found on the banks of the canal and its distributing channels, but they would appear to be dying out here, as in all parts of the Panjab. Jerdon mentions a bag of 75 brace made by one gun near Karnal; nowadays, one seldom makes more than 9 or 10 in a day's shooting. They are still numerous, however, on the banks of the Ghagar. Hares are general but not numerous; they seem to affect the fair jungle by preference, and are most frequent on the slope from the Nardak to the lower Bangar. Peafowl abound alike in the cultivated and in the jungle villages, and the blue rock pigeon is everywhere extremely common. The small sand grouse is found on the upland fallows. Bush quail are scattered sparsely over the district, and rain quail abound in the *bajra* fields after the crop has been cut: the large grey quail comes, as usual, with the ripening wheat, but the vast area under wheat crops, due to the presence of canal irrigation, diminishes their apparent numbers. But it is in waterfowl that the district stands conspicuous. As soon as the rice crops appear above the water, every *jhil* is crowded with geese and ducks, whose constant quacking, the villagers say, at first renders sleep next to impossible, and the loud very seriously diminish the outline of rice. The mallard, pintail, mallard, pinkhead, shoveller, teal, and golden teal are the common ducks. The grey goose is to be found in hundreds on the larger marshes, and the black barred goose is to be seen on the river. Mallard and jack snipe abound in the old rice fields, and 4 or 5 painted snipe are shot yearly; while pelicans, ibises, cranes of many kinds, herons, bitterns, and many sorts of waders cover *jhils*, the *saras* and *kunj* being particularly numerous.

The excellency of the shooting lies in its diversity; you may shoot deer at dawn, partridge and hare in the early morning, duck and snipe during the hotter hours, and pick up a peacock on his way to roost for the night as evening calls you home. Perhaps such enormous bags are not to be made here as in some other districts. But you can hardly go anywhere without finding game moderately plentiful at your tent-door, and often in great variety.

In old times lions and tigers were not uncommon in the tract. The Nardak was a favourite spot for the old Emperors to hunt lions in; and as late as 1627, Mr. Archer says that lions were sometimes seen within 20 miles of Karnal; while tigers were exceedingly numerous in its immediate vicinity, one having carried off a *fakir* at the Imperial bridge where the Grand Trunk Road crosses the old canal, only a few days before his arrival. He describes Karnal as "situated in a large plain but

recently recovered from the tigers," and Thornton, writing in 1884, says that "a few years ago the jungals were infested by lions, which are now rarely met with except further to the west," and gives several authorities in support of his statement. At present leopards are only occasionally found in the *ghan* jungals along the river, or in Nardak scrub. Wolves are common all over the tract, especially in the Nardak, where goats and sheep abound. Rewards for their destruction on the average amounted Rs. 450 have been paid for the last 15 years, rising as high as Rs. 1,270 in one year. The reward is Rs. 5 per head. Jackals abound, and do an immensity of damage to the crops, especially to maize, which can hardly be grown in some parts, as the jackals "don't leave even the bones." Wild pigs are common, chiefly on the river edge and along the Nardak drainages, and they too do great harm to the crops. The means adopted to protect the crops from wild animals are detailed under the head of agriculture in Chapter IV. But of all animals the common red monkeys which swarm all along the canal are the most destructive, doing almost as much mischief in the houses as in the fields, and there is no way of keeping off these sacred pests.

The swamps which abound in the canal tract swarm with grey geese, duck, snipe, and waders of all sorts in the cold season. *Chimars* or bird-catchers from the east fix long low nets across the swamps at night, and, frightening the ducks into them, net numerous numbers which they sell at Ambala and Shola.

24. Crocodiles, all of the blunt nosed or true crocodile genus, abound in the river and along the canal and its attendant swamps. They frequently seize and kill young cattle, but no really authenticated case of their having attacked a man seems to be discoverable, though in most villages they tell you that this has actually happened in some other village. The poisonous snakes are the *krait*, which is very common indeed, the *cobra* (*Naja sputatoria*) and the Russel's viper, which are less so, and the *echis carinata*, which is not often seen.

25. Fish abound in the Jamna, in the swamps along the canal in most of the village ponds. They are caught by *Shimars* and by a few Muss, and are largely eaten by the Mussalman of the cities, and by lower castes in the villages.

26. The table on the next page includes the commoner of the trees and shrubs, and such herbs as call for notice. This is taken from Mr. Hinton, who says:—

"For the botanical names I have followed Brundia. But as synonyms, both botanical and vernacular, are numerous, I give the references opposite each tree to the places where full information will be found. B. refers to Brundia's Forest Flora, S. to Steudel's *Panjab Plants*, and P.P. to Baden-Powell's *Panjab Products*. I must

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Wild animals—snakes.

Sauropsids and reptiles.

Fish.

Trees and shrubs.

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Geology, Fauna
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Trees and shrubs.

Below the principal ones to which the villagers of the tract put each name; but many other trees are mentioned by the authorities I quote. I omit official names, which are simply innumerable."

No.	Vernacular name	Botanical name	References
1	Al	<i>Colatinyas procera</i>	H 301 S 134
2	Asob	Mangifera indica	H 125 P P 264, 1127, 1969 S 15.
3	Arpi	<i>Cleistanthus phyllanthoides</i>	H 302.
4	Bakain	<i>Melia azadirach</i>	H 68 P P 1146, 1970 S 73
5	Bar	<i>Ficus bengalensis</i>	H 412 P P 1186, 1950 S 213
6	Bhak	<i>Bacca fraxinea</i>	H 121 P P 239, 1959, 1967 1671, 1757, 1759 S 69
7	Fatrah	<i>Dumetia Asiatica</i>	H 22 P P 1125, 1961, S 95.
8	Galar	<i>Ficus glomerata</i>	H 422 P P 1497, 1930 S 213.
9	Hingo	<i>Balausta salburghii</i>	H 56 P P 1449 S 14
10	Hira	<i>Capparis opifera</i>	H 45 S 16.
11	Lal	<i>Salvadora oleoides</i>	H 310 P P 2031 S 175.
12	Laman & Jaman.	<i>Kugonia oviculata</i> and <i>Janitilana</i>	H 323 P P 2072 S 81
13	Lamb	<i>Prosopis spiciosa</i>	H 120 P P 922, 1245, 1580, 1759, 2010 S 74
14	Jawan	<i>Ailanthus montana</i>	H 144 P P 1397 S 57.
15	Jhan	<i>Tamarix glabra</i>	H 21 P P 1125, 1127, 2000 S 61.
16	Jhar	<i>Zizyphus nummularia</i>	H 94 P P 1175, 2153, S 15.
17	Kalada	<i>Ulophylla montana</i>	H 299 S 127.
18	Kair	<i>Capparis opifera</i>	H 14 P P 379, 1150, 1952 S 13.
19	Kandai (Chiquai),	<i>Solanum acanthocarpum</i>	P P 1973 S 161.
20	Kandai (Chauri) or Kalyanasi	<i>Argemone mexicana</i>	P P 1970 S 9.
21	Khajur	<i>Phoenix agrostoides</i>	H 524 P P 970 1094, 1797, 1961, S 213 P.
22	Kikar	<i>Acacia arabica</i>	H 100 P P 1211, 1267, 1717, 1911 S 60
23	Karphan	<i>Opuntia affinis</i>	H 245 P P 3, 191 S 101.
24	Nim	<i>Melia Indica</i>	H 67 P P 1186, 1964 S 72
25	Nimbhar	<i>Acacia leucophylla</i>	H 104 P P 1210, S 63
26	Pani	<i>Aspalathus latifolia</i>	H 231 P P 1620.
27	Pikhan	<i>Pilea inermis</i>	H 431 S 216.
28	Pipal	<i>Ficus religiosa</i>	H 415 P P 1465 S 213.
29	Ras	<i>Nelumbo (?)</i>	
30	Saurawal		
31	Senjha	<i>Moringa pterygosperma</i>	H 129 P P 1174, 1544, 1943 S 19.
32	Silabhan	<i>Dalbergia sissoo</i>	H 149 P P 1213, 1903 S 105.
33	Sindhalan	<i>Vitex negundo</i>	H 369 P P 1373, 2005 S 106.
34	Tamar	<i>Euphorbia rugeliana</i> and <i>aristata</i>	H 495 P P 14475, 1897, 1929 S 191 P.
35	Tat	<i>Morus alba</i>	H 407 P P 972 1468 S 217 P

The *dhak*.

27. The *dhak* is the commonest and one of the most generally useful trees in the tract. It grows gregariously in all low-lying stiff soil and drainage lines, and is found in great belts of dense scrub all over the Sarduk high-lands. The soft tough wood stands water well, and is used for well curbs and the latihora

wheels of Persian wheels, and also for bullock yokes. The scoop for lifting water is made of thin slices of it sewn together with leather, and similar slices are used for the hoops of sieves and the like. Fire used at religious ceremonies is always made of this wood. The leaves are used as plates and drinking cups at big dinners; small purchases from the shop are wrapped up in them, and buffaloes eat them. The flowers boiled in water yield an inferior dye for clothes, and when dried and powdered form the *kesa* or red powder used at the Holi festival. Cattle also eat them, and they improve the milk. The roots are sometimes dug up, beaten, soaked in water, beaten again, split up, beaten a third time, washed, and the resulting fibre used for the rope of a Persian wheel and other purposes. But the rope so obtained is very inferior. The fibre is used to *gunt* the rope in a *shawa* well. The resin which exudes from the *dhak* is called *kinu* (vern. *kanū*). It is collected by a caste called *Heri* who come from the east; and a man following this occupation is called *dhak-pacha*. They pay a small sum for liberty to collect the gum and gash (*gashan*) the trees in rows at distances of a span. Next day the resin which has exuded is scraped off into a small vessel. When dry it is beaten with sticks into small pieces, and winnowed to separate it from the bark and refuse. Its properties are elaborately described by Mr. Baden-Powell. Here it is used chiefly to clear indigo and as a tonic, and never for tanning. The gum is collected from the tree when the thickness of a man's thigh, or about four to five years old, and a good tree will yield two *seers*, and again a smaller quantity six or seven years later; but the yield varies greatly. A rainy season favours its production, and the best time of year is the cold weather.

28. The *khar* is the next most useful tree. It grows sparingly all over the tract, save in the lightest soils. It is said to flourish in soil impregnated with sulphates; but plantations of it were tried on this point in each soil, and failed almost entirely. It grows chiefly in *Khaddi* lands, whether *Khaddi* of a full stream or of the *dhanna*. The hard, strong, close wood is used largely for agricultural implements and especially for all bearings, rollers, linings of presses, ploughshares, and the like, which undergo much wear and tear. It makes very fine charcoal. The bark is used largely for tanning, and to control the fermentation in distilling, and the seed pods are greedily eaten by cattle and goats.

The *khajur*, or the wild date-palm, is abundant all over the *Khaddi*. Its soft stems are hollowed out for water channels. The leaves are used for *hatal fans* (*shāwā*) and mats. They are also stripped off their stems, split up into strips, and beaten with sticks till the fibre is soft when ropes are made of it, chiefly for the Persian wheel. The process, however, is very laborious, and the rope exceedingly inferior. The fruit, which is much eaten by the villagers. No spirits are distilled from it since the experiment was made from Karnal.

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The *dhak*.

Other trees.

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Other trees.

The *farash* is found throughout the district chiefly in the Khadir. Its wood is used for building purposes, and when young, for charcoal. The galls (*sonin*) are used for dyeing.

The *pipal*, *pillkhan*, *gular*, and *bar* are solitary figs, chiefly valued for their splendid shade. One or other is often to be found outside the gate of the village. The *gular* wood smells water especially well, and is used for well curbs, as in, though less frequently, that of the *pipal*. The *pipal* leaves, too, are very fine fodder; but are only used in famine, as the tree is sacred. The *pipal* and *bar* are very common in the valley of the Sarani.

The *shishum*, *tut*, and *sun* are not very common except where sown. The first gives the best wood grown in these parts for all purposes which require strength and toughness. The fruit of the *tut*, or wild mulberry, is eaten by the children, and the twigs are used as withies for basket-work of all sorts, and for the lining of earthenware wells.

The *amb* or mango is the favourite tree for groves, and many villages in Panchpat and in all parts of the Karnal tahsil except the Narilak have several. The fruit is exceedingly poor, and not sold as a rule. The leaves are used for charcoal, the wood for bowls for kneading dough, and for any purposes in which durability or strength is not required.

The *jambua* is always used for the outer rows of groves, growing straight and tall and close together, and shielding the trees inside. It must be distinguished from the *jambua* or *Ragur* in *jambua*. The wood is most for building purposes and for balustrade; and the fruit, which is inferior, is eaten by the villagers.

The *kainda* is common except in the Khadir. The wood is very tough and hard, and is used for prongs and teeth of agricultural implements. It is a small tree, but a favourite with the people because its close foliage furnishes excellent shade.

The "*sanjan*" or homo-rubidish tree yields long green huts which form a favourite pickle, and the tree is always ruthlessly lopped, as only the young shoots bear fruit.

The *babai* or *Verain* tree, with its delicious scent, is often found by the well. Its wood is used for ox-yokes.

At Karnal itself there are, probably, the finest fruit gardens in Northern India, dating back from the times of the old emperors, while the canals of the canal and other gardens surpass even those of Saharapur. The old canal, too, has a very fine selection of trees, many of them rare, on its banks.

29. The *jul* and *hair* grow gregariously all over the higher and poorer parts of the tract, except in very light soils. The fruit of the former is called *pila*. The buds of the latter are called *hul*, and are eaten boiled; the ripe fruit is known as *pinja*. Both fruits ripen in Jeth, and form a real resource for the poorer classes in famine years. The *hair* is especially valuable in droughts as it fruits a second time in autumn in dry seasons. The wood of the *hair* is grossy, and the charu-staff is therefore always made of it.

The *shan* grows in the low sandy flats all along the river edge. The *ambdala* is common in all the lighter soils of the tract. Both are used for basket-work, and for lining unbricked wells.

The *jand* makes good charcoal, and the unripe pods are called *sanger*, and eaten boiled or fried. The tree is often sacred to the inferior deities: in the Nardak it is partly replaced by the *nishar*. Wherever the *jand* is abundant in the Nardak one may be sure that the soil is good.

The *ghar* flourishes everywhere except in the Khadir. The ripe fruit is eaten in Jeth. The bushes are cut in Katik and Jeth and piled in a heap (*hul*) to dry. They are then beaten with sticks, and the broken leaves form *pala*, a very valuable milk producing fodder. The leafless thorny bushes (*war* or *chap*) are used for hedges.

The *hira* and the *hingo* are common; especially the former. It is a noticeable feature of the Ghagar jungle. The cut bushes make splendid hedges, the thorns of the *hira* being especially formidable. The *hingo* makes good fuel.

The *aral* and *ambawal* are chiefly remarkable for the delicious and powerful perfume of their flowers, which scents the air for many yards round. The former is used for charcoal, and pipe stems are made of the branches.

The *thokar* or *amphibia*, and the *agphina* or prickly pear, are used for live hedges in the Khadir, where thorny bushes are scarce.

The *ak* grows everywhere, and is used in curing tobacco. Its root is officinal.

Among herbs the *piat* is chiefly remarkable as the mark of bad sandy soil. It grows in cultivation only, chiefly in the Khadir. The *lamua*, *ra*, and the two *landai* grow among the crops in the light flooded soil along the river edge, and do them an immensity of harm. Their presence is a proof that the soil was too wet at sowing for the yield to be good. Traces of *lamu* or the *sajit* plant are to be found in the Kalkhal *tahsil*.

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30. The principal jugatal grasses of the tract are given below omitting the many species that grow on fallow only.—

Grasses.	No.	Vernacular name.	Botanical name.	References.
1	Arjun	..	<i>Andropogon inermis</i> Sw.	S 224, P P 260, 1232.
2	Barn	..	<i>Eragrostis halimifolia</i> Sw.	P P 260, S 232.
3	Dab	..	<i>Poa cynosuroides</i> L.	P P 1240, 1792, S 254, N W P 4, 278.
4	Alia	..	<i>Cyperus inermis</i> Sw.	P P 250, S 264.
5	Dakh or Dulra	..	<i>Cynodon dactylon</i> L.	P P 274, 1793, S 258, N W P 4, 303.
6	Chandhi	..	<i>Andropogon</i> sp. ?	P P 277.
7	Kachhi	..	..	..
8	Kuri	..	<i>Eragrostis</i> sp. ?	S 255.
9	Lamp	..	..	..
10	Mari	..	<i>Panicum urtica</i> Sw.	P P 1879, 1892, S 261.
11	Muthura	..	..	..
12	Pulva	..	<i>Andropogon squarrosus</i> Sw.	P P 279, S 248.
13	Panni	..	<i>Andropogon muricatus</i> Sw.	P P 1234, 1893, S 248, N W P 4, 302.
14	Ilia	..	..	..
15	Sauvat	..	<i>Panicum urtica</i> Sw.	P P 260, 276, S 258.
16	Sarda	..	<i>Eleusine indica</i> Gaertn.	S 256.
17	Sarkata	..	<i>Eleusine indica</i> Gaertn.	P P 260, S 261.

The *Dab* is the *hara* or sacred grass of the Hindus. It is a coarse grass generally found in company with the *Alia*, and is chiefly used for ropes. It is cut in Kullik, dried, beaten, soaked in water for a few days in the hot, or a month in the cold, weather, and the fibre washed and dried. The process requires little labour, and the ropes never rot. They are not strong, however. They are used for the ropes of the Persian wheel, where they will last three months or more, for stringing bullocks, and for general purposes. Buffaloes eat the young grass, and the old grass is sometimes used for thatching.

Panni is a tall coarse grass growing in lowlying moist places and in flooded land. It is very abundant, and is the principal thatching grass of the country. Its roots form the sweet-smelling *chun* used for *tattis*. The culm or seed stem is called *baria* or *sia*, and is used for making brushes, and for religious purposes. Buffaloes eat the young grass.

The *sarkata* or *sarkata* (tiger grass) is found on the canal and in the Khudir. The thick strong culm are called collectively *hina*, and are used for making chairs, boxes, and screens, and the leaves for thatching. Mr. Baden-Powell would seem to have confused this grass with the one next following.

Mari is very like *sarkata* in general habit and appearance, but is much thinner in the stem, and is found only in the Khudir. The top of the culm is called *lila*, the sheathing petiole *marji*, and the two together *marji*. *Mari* is used for making string and rope, and is stronger than *dab*. It is also used for matting. The *lila*, which is peculiarly fine, elastic and polished, is used

for making winnowing fans (*chhaj*), coverings to protect road ridges, carts, &c., from the rain (*pirkhi*), clothes boxes, and the like. This grass must be distinguished from the hill grass of the Panjab, which is *Andropogon Evolutum*, and is here called *bhabar*.

The following are the best fodder grasses in order of merit:—*Arjan*, *siabk*, *padan*, *sarola*, and *gathal*. All these are cut and stacked as hay. *Sarwak*, when young, is useful; but falls off as it gets older. The seeds of *sarwak* and the roots of the dila or *welge* are eaten on fast days.

Chapter I, B.

Geology, Fauna
and Flora.

Glossary.

CHAPTER II.

HISTORY.

SECTION A.—PHYSICAL.

Chapter II, A.

Physical
History.

Changes in the
course of the Jamna.

31. The question whether the Jamna river, as thought by some geologists as well as archaeologists, formed a part of the western water system, is too large to touch upon; but if the Jamna river did run into the Indian Ocean, the two large and very remarkable lights in the Bangar on which the cities of Karnal and Panipat stand, and which cut right through and extend to the west of the water-shed, almost certainly mark two intermediate steps in its change to its present course; and the old course must have run along the foot of the Narkak step, where the old main canal ran. But changes in this stream have been, during historical time, confined within the limits of its present Khadir. That it did once flow below the towns of Karnal and Panipat, in the bed immediately under the Khadir bank now occupied by the Burhi Nadi, is beyond a doubt. And it is also certain that it did not at once wholly abandon that bed; but that a branch of some importance continued to flow in the old channel till comparatively recent times. In 1398 A.D., Timur encamped on the banks of the river of Panipat on his way from Panipat to the Jamna; and the Ain Akbari, written about 1590 A.D., states that "the stream of Sanjpanli (a village in the Khadir) runs under the town of Karnal." There is a universal tradition that the Burhi Nadi used to flow regularly in flood times within a comparatively recent period; and within the memory of man the floods have passed from the river above Dhansauli and run down the old bed as far as Delhi, the last occasion being in 1864 A.D. But the strongest evidence is afforded by the map, which clearly shows that in some parts of its course the river or its branch suddenly changed its course, while in others it gradually retreated. On this part of the Jamna, the villages on the river edge divide alluvion thrown up in front of them by straight lines drawn from the end of their old boundaries to meet the main stream. The result is that, as the general tendency of the stream is to shift eastwards, the boundaries of villages which have had a gradually receding river frontage for any considerable period, run out to the east in long parallel lines. This formation is well marked on the present river frontage; and it is impossible to look at a map showing the village boundaries of the Karnal, Panipat, Shuapat, and Delhi Khadirs, without being convinced that exactly the same process has taken place in some places and not in others along the course of the Burhi Nadi or Ganda Nala, the dry channel of which still runs under the Khadir bank. There

are three well-defined blocks of land which are clearly marked off from the rest of the Khadir by the superior stiffness of their soil, and by their sharply-defined river bank. They are: (a) the block including Bannipaw, (b) that including Ain, Dahin, Bikanashra and Gunaur, and (c) that including Barsat, Pundri, Bahail, and Karar. Now, these blocks consist of villages with more or less circular boundaries, while the villages to the west of them show marks of alluvial accretion; and there is little doubt that these former villages were at no very distant period on the east bank of the Jamna. This conclusion is borne out by local tradition, which tells us that Gunaur and Barsat, with all the villages about them, formerly lay to the east of the river. Mr. Holston writes as follows:—

"My personal knowledge of the soil of every village in the Khadir, and of the innumerable old channels still to be traced, has convinced me that these two areas (b and c) have wholly escaped the river anika which in comparatively recent times has gone on throughout the remainder of the Khadir, and that here and here alone, the main river has changed its course suddenly and not gradually. It follows, of course, that the change in that course may have taken place after, and not before, the date of origin of these villages."

As regards the date of the change, almost the only data we have are the number of generations for which the various Khadir villages are said to have been inhabited. The Panipat tradition is that the river left the city walls in the times of Bahl Kalandar, or about 1300 A.D. The villages over which the river appears to have passed comparatively recently show from 10 to 15 generations in their genealogical trees; those which the river appears to have gone round, from 20 to 30. Of course, even supposing the genealogical tree to be absolutely correct, it by no means follows that all the generations have followed since the foundation of the village, for the community traces back its descent to its common ancestor; and it is always possible, and, in villages settled as offshoots from a neighbouring parent village, almost certain, that the family as it stood at some stage of its descent from him, and not the ancestor alone, emigrated to the new village. Much information as to the riverine changes of the Panjab is to be extracted from the first few pages of Mr. Macpherson's sketch of Panjab Geology, published in the Provincial volume of this Gazetteer.

32. The existence of numberless abandoned wells throughout the Nardak jungles affords certain proof that the tract was once far less arid than it is now; for extensive irrigation with water at 70 to 90 feet from the surface is impossible, at any rate to Rajpats. The whole countryside says that the Channay was dug out and straightened by some former Emperor, and used in old days to flow continuously as a canal; and that when the stream became intermittent, the water-level sank and the wells were abandoned. The names of the builders of many of the wells are known; and it would appear that the change dates

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Physical History.

(Change in the course of the Jamna.)

The Channay and
Sai Raddi.

Chapter II. A.

Physical
History.The Chautang and
Nai Nadi

from not so very many years back.* It is noticeable that Nadir Shah, in January 1739, crossed "a large river" at Timori on the Nai Nadi; and the people say that one of the old Emperors built a dam and turned part of the Chautang water into the Nai. The whole matter is intimately connected with the interesting question of where Firuz Shah's canal really did run.

Famines.

33. This will be the most convenient place to give such information as is available with regard to the earlier famines in these parts. In 1783 A.D., or 1840 S., there was a terrible famine known as the *chafian* in which grain rose to 4 seers the rupee, and the horrors of which have been handed down by tradition to the present generation. No efforts were made to relieve the distress, and even rich men died in numbers. In 1803 A.D. or 1860 S., there was a total failure of crops, and great distress, but little mortality. In 1812 A.D., or 1869 S., grain rose to 10 seers per rupee; but great efforts were made to encourage private enterprise and transport, and the mortality was not great. In 1824-25 A.D., or 1881 S., there was a terrible famine. In the former year the crops withered up; in the latter year were sown. No grass sprang up, the cattle died, agricultural operations were suspended, the people fled, and not one-fifth of the revenue was collected, and in many villages none was even demanded. The export of grain to the south, where the distress was even more severe than in the tract itself, helped to raise prices. But there would not appear to have been any very great mortality.

In 1833 A.D., or 1890 S., the whole country was overwhelmed by the most terrible famine which village tradition can recall, forming the epoch from which old men fix the dates of events. In many villages no land was even ploughed up for the autumn crop; in but few was any seed sown; in none was a crop reaped. What little grass sprang up was eaten by locusts. The cattle died,† grain rose to 8 seers per rupee, and the people followed their cattle; while crowds of emigrants from the high-lands to the west poured into the district to help the residents to starve. The spring rains were abundant, and where cultivation was possible, an ample yield combined with famine prices more than covered the money loss of the preceding season; but man and cattle alike were wanting to take full advantage of the opportunity. And when the rains of 1834 again failed, the district simply broke down. Large remissions and suspensions of demand were made, large balances accrued on the remainder, the jails were once more filled with defaulters, and villages were again deserted in every direction. On this occasion it was pro-

* See also page 12.

† Mr. John Lawrence says:—"As early as the end of April there was not a blade of grass to be seen for miles, and the surrounding plains were covered with the carcasses of the cattle which had died from starvation. On the small sown crops were cut down and sold as fodder to those who could afford to pay for them."

posed to prohibit the export of grain to the west; but Government sternly refused to allow of "any tampering with the grain market as highly objectionable in principle, and likely to lead to disastrous results.

In 1837 A.D., or 1294 S., the failure of the rains again caused the greatest distress. In the district itself there was nothing more than a severe drought, in itself a sufficiently depressing circumstance; but farther south the calamity assumed the proportions of a great famine, so that in some places the people were "driven to move bodily to find food elsewhere;" and the demand for grain thus created drove up prices in Panipat to famine rates. Wheat was again at 8 to 10 annas per rupee. In 1841 A.D., a terrible epidemic of fever ravaged the whole of the Delhi territory, the mortality being so great that "in many places the crops died for want of persons to look after them," while the Government revenue showed a deficit of Rs. 2,37,000; and in 1843 another of a similar character, but even more terrible, devastated the country. In 1842 the rains failed, but the calamity assumed the proportions of a drought rather than of a famine. In 1851 a drought began, which continued to 1852, almost causing a famine; and the effects upon the crops were "infinitely disastrous." In 1858 A.D., or 1217 S., the rain-fall was scanty; in 1859 it consisted of "only three or four heavy showers;" in 1860 it was less than 6 inches at Karnal. Within two months the price of wheat rose from 23 to 9 annas per rupee, the large export of grain across the Jamma greatly enhancing the demand. Relief works were set on foot, and from January to September 1861, the weak and sickly were fed at an expense to which the famine fund alone contributed Rs. 41,500. In August of the same year, 22,237 souls received relief in this manner. Cholera broke out in the camps, and the mortality was considerable among both men and cattle. In the Nardak two-thirds of the collections were suspended; and between 1860 and 1863 balances of Rs. 43,000 accrued, of which more than Rs. 27,000 had eventually to be remitted.

In 1869 A.D. or 1325 S., a famine again occurred, which was not so general, nor in the lower parts of the district so severe as that of 1860. But in the Nardak and the Kailhal taluk the failure of crops was more complete, and the distress greater; and the terrible mortality among the cattle left far more lasting effects upon the prosperity of the people. In 1868 both crops entirely failed, and in 1869 no rain fell till August, and the autumn harvest was accordingly scanty, while the spring harvest again entirely failed. Relief works of a very extensive nature were again opened, and alms distributed as before. From first to last Rs. 1,71,543 were spent, and 19,90,700* souls fed, the daily average of helpless persons receiving gratuitous relief in April 1869 being Rs. 12,120, in addition to Rs. 1,814 on relief works. Cattle to the number of 65,000 died, and

* i. e. adding up the daily totals of persons relieved.

Chapter II, A.

Physical History:

Famine

Chapter II, A

Physical
History.

Famines

"saved the Ghazars and Chakras from starvation." Of the Nardak in particular, the Deputy Commissioner wrote:—

"Hundreds of people are in a state of semi-starvation, never getting enough to eat from one day to another. Not a leaf is to be seen on the trees that have, while they lasted, made a wretched substitute for fodder for the cattle. Skeletons of cattle in all directions, empty bins, and lean countenances of the people remaining in villages, indicate a state of poverty fully justifying the relief proposed."

The Government, in its review of the famine, stated that it was more severe in Karnal than in any other district of the Punjab. The suspensions for the district, including the high tract of Kaithal, were Rs. 46,647, Rs. 18,300 out of a demand of Rs. 24,000 being suspended in the Nardak of the Karnal taluk alone in 1849. Nearly 20,000 cattle died in the Nardak alone, and the people have never recovered from the effect of this terrible blow, directed as it was at their most certain source of sustenance.

During the progress of Mr. Ibbotson's Settlement operations a drought, in some respects more destructive, because more prolonged than any of its predecessors, afflicted the Nardak. From 1875 to 1877 the people had not a single good crop. Poor-houses were opened, and relief works set on foot; but mortality was small, and in fact famine pitee was hardly reached. But the grass famine was terribly complete; and the cattle again suffered fearfully. Large remissions and suspensions were again sanctioned, but the strain on the resources of the people was very severe.

The spring harvest of 1883 was a very poor one. The summer and winter rains of 1883-84 were failed, and in the drier tracts there were no crops. The grass famine was intense, and the cattle had to be driven off to the hills, whence many never returned. The loss of plough bullocks was very large. The policy of giving large suspensions was adopted and has been continued ever since in the drier tracts and the equally insecure country, whose crops depend on the floods of the Saranji and Ghagar, whenever the anomaly has arisen. It must be remembered that when the highlands are enjoying a bumper harvest, the Nard is very likely to be drowned. In the Kaithal taluk alone, excluding Pehowa, Rs. 38,774 were suspended in 1883-84, Rs. 18,462 in 1884-85, Rs. 40,819 in 1885-86, and Rs. 15,473 in 1887-88. Advantage has been taken of every good season to reduce the balances, and in the autumn of 1888 only about Rs. 3,000 remained uncollected. It is not too much to say that the success or failure of the new settlement depends on the continuance of this policy in all tracts outside the influence of the river and the canal.

It is curious to note the regularity with which drought or famine years recur, as shown in the following series of years:—1783, 1808, 1812, 1824, 1830, 1842, 1851, 1859, 1869, 1877, 1880.

SECTION B.—POLITICAL.

Chapter II, B.

Political History.

General remarks.

34. The great plain of which the district forms a part, lying, as it does, at the very door of Hindustan, has from the time of the Mahabharata to the establishment of English rule been the battle-field of India. But Karnal is so near to the capital of Delhi, that whenever and for so long as the empire which centred in that city existed as more than a name, its political fortunes were practically identical with those of Delhi itself. Thus all that will be attempted here is to relate as much of its political history as is distinct from that of the Imperial city, and to notice briefly the historical events which took place within the tract itself. The tribal history of the tract is given in Chapter III.

35. Considering the close connection of the tract with the legendary history of India, the objects of antiquarian interest existing in it are few in number. Among the most curious of them is the old shrine of Sita Mai, at the village of that name in the Narbakh. It is built in the ordinary form of a Hindu temple, of which Mr. Fergusson gives many examples in his *hand-book of Indian Architecture*. It is of brick; but the curious feature is the elaborate ornamentation which covers the whole shrine, the pattern of which is formed by deep lines in the individual bricks which seem to have been made before the bricks were burnt, so that the forms they were to take must have been separately fixed for each brick. A large part of the shrine was pulled down and thrown into the tank by some iconoclast Emperor; and though the bricks have been got out and the shrine rebuilt with them yet they have been put together without any regard to the original pattern. The broken *Rabal*, part of which has been recovered, is of a curious shape if it was originally made for a Hindu temple, as it is more suggestive of Buddhist symbolism. The shrine is said to mark the spot where the earth swallowed up Sita in answer to her appeal for a proof of her purity. The shrine of Kalandar Sahib at Panipat possesses two slabs of touchstone of very unusual size. It was built by Khizr Khan and Shadi Khan, sons of the Emperor Ala-ud-din Ghori. Panipat possesses several buildings dating from early Afghan times; and the *Rabal Bagh* mosque built by Babar will be mentioned below.

Antiquities

Minars which mark the course of the old Trunk Road are still standing at intervals of about two miles. And the ruins of the hostilities (*sarais*) at Tirahri, Gharaunda, and Simbhalka are still in existence, that at Gharaunda being a very fine and striking specimen of early Muslim architecture. It was built by Khan Firoz in the reign of Shah Jahan about 1632 A. D. The contrast between the huge brick gates which were then necessary for the protection of travellers, and the slight structures which now suffice for the same purpose, speaks volumes as to the state of the country at the respective periods.

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The old bridge at Gula has already been referred to. It is of stone, apparently the spoils of some Hindu temple. An elaborately carved slab found in the bed of the Purna immediately below the bridge is now in the Lahore Museum. There is another ancient bridge across the Sarnati at Polachmaza near Siran, but only some of the piers remain.

36. Karnal is included in the *Brahmarshishetra*, or land of divine sages, the sacred river Sarnati being at Thanesar, only 20 miles north of Karnal, and the Drishadvati, if that is the Chautang, cutting the district excluding the Kaithal tahsil into two nearly equal parts. All the north-western portion, comprising most of what is called the Nardak, is included in the *Kurukshetra* or field of the great battle described in the *Mahabharata* and caused by the refusal of the Kauravas to give up the five *pats*, of which Panipat was one. In fact Nardak is properly but another name for the Kurukshetra, though it is wrongly but conveniently extended, by local custom, to a certain continuous area to which it does not properly apply. The word is said to mean ruthless (*Sanskrit Nirayuka merciless*); and the story gives that the Kauravas and Pandavas, being relatives, sought for a place to fight where the inhabitants should be specially hard-hearted, and chose this spot because there they found a man cutting off his son's head with which to dam his water-course. A tank in Batauli in the S. of Kaithal is pointed out as the place where this incident occurred. But Huen Tsang says that the Nardak was known as the Happy Land when he visited it, and this would seem to point to dukh or pain, as the second factor in the word. The limits of the Nardak and the antiquities of the tract are elaborately discussed by General Cunningham in his *Archæological Survey Reports*, II, 212 to 226, and XIV, 86 to 106, and *Ancient Geography*, 329 to 336.*

The southern boundary of the Kurukshetra is the Sai Nadi, which cuts off the western corner of the Karnal pargana, and re-appears in the south-west corner, where, at the village of Sink, or south-west corner of the Kurukshetra, Turka Jakhah is said to be situated; and all that lies beyond this line is included under the general term *arab* or non-Nardak, or is called *dher*, meaning vast. The Nardak itself is also called *ras* or battle-field, and the term *ras khar* is locally applied to say barren soil, as they say that such soil marks the spots where the sparks from the weapons of the combatants fell. The scenes of many of the incidents narrated in the *Mahabharata* are still pointed out by the people, and the whole area is full of *tirthas* or holy tanks. It was at the village of Batauli (*Vina Asthal*) that the

* On this subject Mr. Ishoton remarks:—"With all due deference to so distinguished an authority, I cannot help thinking that General Cunningham's reasons seem unnecessary difficulties. Huen Tsang's words may surely be taken to mean that the *ras* is, and not the *circumference*, of the Happy Land was 300 li. And Huen surely states that the Kurukshetra is not included in the Brahmarshi. I think General Cunningham's reading of the text would exclude some of the holy places which he himself includes in the Nardak."

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sage Visnu Ired who wrote the Mahabharata; and there that the Ganges flowed underground into his well to save him the trouble of going to the river to bathe, bringing with it his *loin* and *loin* cloth, which he had left in the river, to convince him that the water was really Ganges-water. The well is still there to shame the sceptic. It was at Goudar that Gotama Rishi caused the spots in the moon, and gave Indra his 1,500 eyes. It was in the Parna tank at Bahulolpur that the warrior Duryodhana hid; till Krishna's force brought him unwillingly out to fight, and at the Phalgu took in Phalru that the Kauravas and Pandavas celebrated the funeral ceremonies (*grahitika*) of the warriors who had fallen in the war. The local legends are far too numerous and lengthy to give here; they have been collected into a little book called *Kurukhoten Darpan*, compiled in 1854 by Manahi Kala Rai, Extra Assistant Settlement Officer of Thanesar, and printed at the Koh-i-nur Press, Lahore.

37. Some account must, however, be given of two famous old sites, *Amita* and *Pohowa*. The former is a large village in the north of the Indraparyana. The following notice of it is extracted from Cunningham's *Ancient Geography of India*, p. 337:—

"Five miles to the S. S.-E. of Thanesar Ghore is a large and lofty mound called "Amita," which is said by the Brahmans to be a continuation of "Abhimanyu Khara," or the mound of Abhimanyu, the son of Arjun. The place is also named "Chakrabhara," or the "Armied Army," because the Pandavas here assembled their troops before their last battle with the Kauravas. Here Abhimanyu was killed by Jayadratha, who was himself killed the next day by Arjun. Here Aditi is said to have seated herself in ascetic abstraction to obtain a son, and here accordingly she gave birth to Suryya, or the Sun. The mound is about 2,000 feet in length from north to south, and 500 feet in breadth, with a height of from 25 to 30 feet. On the top there is a small village called *Amita*, inhabited by Gaur Brahmans, with a temple to Aditi and a "Suryya Kund" on the east, and a temple to the Suryya on the west. The "Suryya Kund" is said to represent the spot where the Sun was born and worshipping all women who wish for male children pay their devotions at the temple of Aditi on Sunday, and afterwards bathe in the "Sury Kund."

Pohowa or *Pohowa* is thus described in the *Ancient Geography of India* (p. 339):—

"The old town of *Pohowa* is situated on the south bank of the Sarasti, 14 miles to the west of Thanesar. The place derives its name from the famous Prithu Chakravarti. The story of the cure of Raja Vena's leprosy by bathing in the Sarasti is told in the Vishnu Purana. On his death his son Prithu performed the usual *grahitika* or funeral ceremonies, and for 12 days after the cremation he sat on the banks of the Sarasti offering water to all animals. The place was, therefore, named *Prithudaka* or *Prithu's pool*, from Sanskrit *adaka* water; and the city which he afterwards built on the spot was called by the same name."

In Vol. XIV of the *Archæological Survey Reports* a full account is given of the numerous holy places at *Pohowa*. The inscrip-

Amita and Pohowa.

Chapter II. B.

Political
History.

Early and Pehowa.

tion described in the same volume is now in the Lahore Museum. There is no doubt Pehowa is a place of great antiquity. In modern times the last Sikh ruler of Kaithal, who built a beautiful house for himself near the town, did his best to increase its religious importance. The story of Raja Prithu's connection with Pehowa is no doubt a somewhat late Brahmanic legend. Any one who visits the place in the rains, when the Sarnati is in flood, will understand why it was called Prithudaka (S. *prithu*, wild, and *akaka*, water).

Buddhist period.

38. The number of Indo-Scythian coins which are found at Patar on the Sarnati, 10 miles north of Kaithal, would seem to show that these parts were, about the Christian Era, included in the Indo-Scythian Empire; and Salsidan, on the border of the district, is still pointed out as the site of the great slaughter of snakes (or Scythians with a snake *skin*) mentioned in the Mahabharata. About 400 A. D. the Chinese pilgrim Fa Hien, and again in 635, his successor Hsueh Tsang, traversed the district. At the time of the latter's visit it was included in the kingdom of Thanour. The curious form in which the legend of the Mahabharata is given by the traveller is most interesting. It is not improbable that the Gominda monastery described by him, and identified by General Cunningham with the village of Guma, is now represented by the monastery of Sita Mai, which is only four miles from Guma.

Early Muhammadan
invasions.

39. In 1011 A.D. Mahmud Ghaznavi sacked Thanour, only 20 miles from Karnal, but made peace with the Delhi Raja and returned without moving further south. In 1017 A.D. he plundered Mathura. In 1022 A.D. his son, Sultan Masud, annexed this part of the country, leaving a governor at Sarnat to administer it in his name; but it was re-conquered by the Hindus four years later. In 1191 A.D. Muhammad bin Sam Ghori was wounded and his army utterly routed by Rai Pitara at Narana, seven miles from Karnal and three from Tiraori. This village is situated in the Nardak, on the Sut Nadi. Next year the Sultan returned, found Rai Pitara encamped on the same spot, defeated and killed him in the battle which ensued, and conquered Delhi. This battle finally subordinated Muhammadan to Hindu rule throughout the Delhi territory, Kutubuddin Aibek being left at Delhi as the representative of the Ghori monarch, and being made independent by Ghiasuddin Ghori in 1206 A.D. under the title of Sultan.

History under the
Pathan dynasty.

40. On the death of Kutubuddin in 1210 A.D., his Indian possessions were divided into four provinces, Delhi and its environs falling to the share of Sultan Shamsuddin Altamash. The province of Lahore was given to Tajuddin Yildaz; and in 1215 the two fell out about their common boundary, and in a battle, again fought at the same village of Narana, Tajuddin was killed. In 1300 A.D. Prince Hamayan, afterwards Sultan Alaoddin Sikandar Shah, who was in command of the army of

his father Sultan Nasiruddin Muhammad bin Esmā, pitched his camp at Panipat and plundered the environs of Delhi, which was in the possession of the rebel Abu Bakr Tughlak. The latter marched out and defeated him at Panipat, a small Khajūr village some seven miles south of Panipat, both on the deserted site of a very large village which is still said by the people to have been destroyed in a great battle. There were 4,000 cavalry engaged on one side alone in this operation. In the early years of Mahmud Shah's reign (1391 to 1397) and the pretender Nasiruddin Nusrat Shah held the *Saltānāt* of Samudhial, Panipat, Jhajjar, and Rohtak, the Emperor being almost confined to the capital. In 1397 Sultan Dabul Khan, son of Mahmud's General, and Governor of the Fort of Siri, drove Nasiruddin by treachery from his headquarters at Ghosuloh, and the latter took refuge with Tatar Khan who had been Prime Minister to Ghisāuddin Tughlak, II. Dabul Khan then seized upon Mahmud's person, and peacefully ruled in his name. Meanwhile Tatar Khan had encamped at Panipat, and Dabul Khan marched against him; whereupon Tatar Khan leaving his baggage and materials of war at Panipat, reached Delhi by forced marches and laid siege to it. Dabul Khan then invested Panipat and took it in three days, up a heaving, which Tatar Khan raised the siege of Delhi and Rohtak Gajra.

41. When Timur Shah invaded India, he marched through the district on his way to Delhi. His route is very fully described in his *namah*—*epic*, and also in the *Zafar Nama*; and it is easy to trace it throughout, except between Mutak (Akolgarh) and Aunah. It is almost certain that he crossed the Samah and Bhaggar by bridges at Paur, Muzra and Gula*. From Karnal he marched through Aunah to Tughlakpur, which was said to be inhabited by worshippers. The name Tughlakpur seems to be forgotten. Paur identifies the place with Sahidok. But it is almost certainly Salwan, the words "the people of this place who also called Salwan," being probably a misreading for "which is also called Salwan." From Salwan he marched, the front of his army extending for more than 20 miles, to Panipat, which he reached on 2d December 1398 A.D. The people had deserted the town in obedience to orders from Delhi; but he found there 10,000 heavy mounds, a *qala* to 10,000 standard mounds, of wheat which he seized. Next day he marched six kos and encamped on the banks of "the river of Panipat, which was on the road." This can have been no other than a branch of the Jamna, then flowing under the town in the channel of the *Barāh Nadi* or old stream. He then marched via Kunhi (Kasin) to Palla on the Jamna in the Delhi *taluk*, while a detachment harried the country round and brought in supplies. Seven days later he

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History of the Sultanate.

Expansion of Timur.

written

* The places at which the bridge on the Ghaggar was situated is commonly called Karna and Sahidok by the Indian Hindoos. But there are doubts as to the exactness of the names for this. — J.H.B.

Chapter II, B.

Political
History.

Anarchy previous
to the Moghal
dynasty.

defeated Sultan Mahmud at Delhi. Ferishta says that Timur returned by Panipat; but this seems to be a mistake for Bagpat.

42. In the anarchy that followed the departure of the invader, and in the subsequent struggle between the Sayyids and the Lodis, Karnal was entirely separated from Delhi, and belonged, first to the ruler of Samana, and eventually to the Lodi rulers of the Panjab. During the reign of Bahlol Lodi, his son Prince Nizam Khan, afterwards Sikandar Lodi, seized Panipat and held it as *fajir* without permission. He made it his head-quarters, and his force there included 1,500 cavalry. Karnal and Panipat were on the high road from Sirhind and Ferozpur to Delhi; and from the time of Timur to that of Akbar, or for 150 years, armies were constantly passing through the tract, and battles, more or less important, being fought in it.

First battle of
Panipat.

43. In 1525 a.d. Alauddin Ali Khan was sent by Babar with a Moghal army, against his nephew Sultan Ibrahim Lodi, and was joined at Indri by Khan Suliman, a Pirzada of Panipat, with additional forces. Being defeated near Delhi, he retreated to Panipat, where he tricked his friend Suliman out of three or four *lakhs* and went on his way. He shortly afterwards rejoined Babar; and next year the Moghal army marched on Delhi. Leaving Ambala, Babar marched via Sirhind to the Jumna near Halaibar in *tahsil* Pipli, and thence followed the river bank to Karnal. There he heard that Alauddin, whom he had sent on towards Delhi, had been defeated by Ibrahim, and that the latter had advanced to Gannur. Mounting his horse at Gharannda *serai*, Babar led his army to Panipat, which he selected for the battle-field, as the town would cover one of his flanks. He arrayed his army about two *kas* to the east of the city, and with his right flank resting on the walls. Ibrahim Lodi took up a position at the same distance to the south-west of the city, and for a week nothing more than skirmishes occurred. At length, on 21st April 1526 a.d., Ibrahim Lodi's forces advanced to the attack, were utterly routed, and were pursued by Babar's army to Delhi, while the conqueror remained encamped for a week to the west of Panipat. He considered the spot a fortunate one, treated the people well, and made Sultan Muhammad Angbali, who had assisted him with troops, Governor of Panipat.

In this battle Ibrahim Lodi was slain, and his tomb lies between the *tahsil* and the city of Panipat. The District Committee about the year 1866 erected a tomb or plain platform over it, with a short Urdu inscription in order to rescue the site from oblivion, (see Chapter VI. S. v., Panipat). It was one of Sher Shah's dying regrets that he had never fulfilled his intention of erecting a tomb to the fallen monarch. In this battle, too, was killed, while fighting in Babar's army, Sanghar, the founder of the Phulkian family of Patiala, and Vikramaditya, the last of the Tomara dynasty of Gwalior. The battle is fully described by several authorities, Ferishta's descriptions differing materially from that of Babar himself. After the battle

Bahar built a garden with a mosque and tank on the spot; and some years later, when Humayun defeated Salim Shah some four miles north of Panipat he added a masonry platform and called it *Chahutra Fattah Mubarik*. These buildings and the garden still exist under the name of Kabil or Kabil Bagh.* The building bears an inscription containing the words "Bina-i Rabi ul Awwal 934 Hij." In 1529 the Maudhar Rajputs of the Nardak rebelled under their chief Mohan, and defeated the royal troops. Bahar then burnt the rebel villages. Later on, during the struggle which led to the expulsion of Humayun, Fattah Khan Jai, Governor of the Panjab, rebelled and laid the country waste as far south as Panipat.

44. When Humayun died at Delhi, the young Akbar, who was then in the Panjab, marched at once under the guardianship of Bahram Shah to meet the Afghan army under the great Hindu General Hima, who was advancing from Delhi. Passing through Thanesar, he arrayed his army 10 miles north of Karnal, and then marched to Panipat two kos to the west of which city Hima was encamped. After a week's skirmishing, Akbar sent a detachment round the city to take Hima in the rear, and advanced to the attack. The result was the death of Hima and the total rout of the Afghans. Next day Akbar marched to Delhi, which he entered without opposition. The battle took place on 20th November 1555 (3th November 1556?) and is fully described by the Emperor Jahangir and by Ferishta.

45. During the early years of the Mughal dynasty† the empire was so firmly established at Delhi that the district can hardly be said to have possessed a separate history. In 1573 Dursim Hasan Mirza, Governor of Baroda, rebelled and plundered Panipat, Karnal, and the surrounding country. And again in 1606, Prince Khuro revolted and passed up this way from Delhi, plundering and pillaging as he went. When he reached Panipat he was joined by Abdul Rahim; and Dilawar Ali Khan, who was at Panipat with an imperial force retreated before them to Lahore. Jahangir himself shortly followed in pursuit, and mourned upon the success which Panipat had always brought to his family. He then ordered the Friday devotion to be always held in mosque of Kabil Bagh which Bahar had built; and this custom was continued till the Marhattas occupied the mosque in the last battle of Panipat. For more than two centuries the country enjoyed

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First battle of Panipat.

Second battle of Panipat.

Mughal dynasty.

* Some say that Hater said the spot was "Kabil Bagh," so he a garden; others, that he planned the garden on the pattern customary in Kabil. Bahar had a wife called Kabilat Begum; and Sir E. Colebrooke says her name may possibly be derived from the name of a species of mynahs (*J.B. & S. xlv, 219*).

† It is generally said that this dynasty, really Turks, were called Mughals, because in the Indian every foreigner was a Mughal, just as every Indian is still a Moor to the British priests. It is a curious fact that native officials are commonly called Turks by the villagers of those parts. If Monahia, perhaps all Hindus, are in the village, each-house, one village will tell another—“Turk lag Mughal kee battle has hold.”—“There are Turks in the rear house.”

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History.

Mughal Dynasty.

piece under the Mughals, the Western Jamma Canal was constructed, the Delhi-Thanesar Road was put in repairs, *sarais* were erected at every stage, and a *saor* or mud wall made at every kos for the use of travellers. The *minars* (brick pillars 24 feet high) and walls still exist; but the *sarais* of Simlhalaka, Ghazipada, and Timari are in ruins, while that of Karnal has disappeared.

Territorial divisions
under the Mughals.

45. In the *Asiatick Album* we have the first record of the administrative divisions of the district. From very early times Panipat formed a separate *shikar* or *taluk*, which probably included the Karnal *pargana*; and in fact Karnal is never mentioned in the early histories, and apparently was a place of little importance till towards the close of the Pathan dynasty. In Akbar's time the whole district was included in *Sarkar Delhi*, and the greater part of it in *Sarkar Delhi*, of the seven *distars* comprised in which *distar* Panipat was one, with 10 *parganas* as follows:—Panipat, Karnal, Sahdon, Kutana, Chhaprauli, Tando, Bhawan, Ganaur, Jhimhana, Kandla, and Bangar Khora. But the *Dastar* of Gohana in *Sarkar Meer* may have included, and *pargana* Panipat in *Distar Delhi*, *pargana* Thanesar in the *Distar* of that name and in *Sarkar Sirhind*, and the *Dastar* of Indri in *Sarkar Sahasranpur*, almost certainly did include some part of the district. *Pargana* Indri was also in *Sarkar Sirhind*. A new *pargana*, Arimabad, containing 42 villages, taken from Indri, Karnal, and Thanesar, was subsequently formed with its head-quarters at Arimabad-Firozpur. In the fourth year of Farrukhsir, that monarch is said to have separated the *pargana* about Simlhalaka from Panipat as a royal domain for his own private expenses. It was not then known as Simlhalaka; and when we took the country that name was only applied to a few villages held by a *jangidar* living at Simlhalaka. But there was a large *pargana* of Jaunsi in which Simlhalaka was included and which was also the head-quarters of a *thappa*; and, as this Jaunsi is divided into *darwai saif khwa* and *Jaunsi khola* and as the Panipat *pargana* is said to have consisted of 104 *thappas*, it is almost certain that what Farrukhsir did was to separate one *darwai* for his private expenses or *saif khwa*. As a fact though, this and many other similar groups of villages similarly assigned for specific purposes were often called *parganas*, yet the old *darwai* record of the part of the district settled by Mr. Holston between 1750 and 1800 at any rate shows only the two original *parganas* of Karnal and Panipat.

Decay of Mughal
dynasty.

47. Towards the end of the 17th century the Delhi Empire was fast falling to decay, and the Sikhs rising to power. In 1703 Banda Baijagi, some time the chosen disciple of Guru Govind, raised his standard in these parts, and, collecting an army of Sikhs, occupied the whole of the country west of the Jamma. He laid the whole neighbourhood waste and especially the

neighbourhood of Karnal, where he killed the founder and massacred the inhabitants. He was defeated by Baladur Shah near Panipat in 1710, but escaped to found Gurdaspur. In 1729 a charge on *pargana* Karnal of five lakhs of *dan* was granted to Dilawar Ali Khan, Aurangzib's, whose ancestors had formerly held the *pargana* in *jagir*.

48. In 1738 Nadir Shah, enraged at not being recognised by the Delhi court invaded India. On 24th January 1739 he reached Sirhind, where he learned that Muhammad Shah with an enormous army occupied a strongly fortified camp at Karnal. Nadir Shah marched on to Timori, in which, it being a fortified town, he had to turn his guns before it would open its gates to him. Here he learned from some prisoners he had made that the approach to Karnal from the direction of Timori was through dense jungle, and exceedingly difficult; and that Muhammad Shah had no intent to move in, being encamped in a small plain which was hardly sufficient for his camp, and surrounded on three sides by thick woods. He accordingly resolved to take the enemy in flank from the north-east. On the 15th January he left Timori, and marching round by the banks of the Jamna to the back of the city, advanced to a position close to the Delhi camp; meanwhile he sent Prince Nusr Ullah Mirza with a considerable force to a spot on the canal and close to Karnal. All this time Muhammad Shah was not even aware that Nadir Shah was in the neighbourhood. Just at this time a detachment which had been sent to oppose Sandur Khan, the Viceroy of Oudh, who was marching from Panipat with reinforcements, and mistaking the enemy had followed him up to Karnal, came to close quarters with him. Nadir Shah and Prince Nusr Ullah at once marched to the support of this detachment, which was the first intimation the imperial army had of their presence. The engagement which followed was not decided. But the army of Muhammad Shah, which had already been encamped for three months at Karnal and had suffered greatly from want of supplies, was now cut off from the open country in the rear and food because so scarce that a *ser* of flour could not be bought for four rupees. Thus Muhammad Shah was starved into submission, and on the 18th February yielded to the invader who led him in his train to Delhi. The operations are very minutely described in the Nadir Nama. Sir William Jones, in his French translation, speaks much of "*Darius Hamir*" close to Karnal, and between it and the Jamna. Mr. Düboussini suggests that the words may be *darya Hamir*, and refers to the canal, which had already been described as a large river. In 1748 Ahmed Shah was met at Panipat by the royal paraphernalia and the news of the death of Muhammad Shah, and there and then formally assumed royal title. In 1750 the Wazir Ghazi-ud-din brought

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History of Mughal dynasty.

Location of Nadir Shah and battle of Karnal.

* More probably "*darius Hamir*" is a faulty transliteration of "*darya Hamir*," g and z being really confused.—J.M.D.

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History.Invasion of Nadir
Shah and Battle of
Karnal.Third Battle of
Panipat.

Alauddin II a virtual prisoner to Panipat, and thus caused a mutiny in the army, the Wazir being dragged through the streets of the city. A horrible massacre followed the outbreak.

49. From this time to the establishment of English rule, a time of horror followed which is still vividly remembered by the people, and was fittingly ushered in by the greatest of all the battles of Panipat. In the rainy season of 1760, Sedashah the Mahratta Bhao marched upon Kunjpura, an Afghan town close to Karnal, which was then strongly fortified, and at which 20,000 Afghan troops were then encamped. He put the whole of them to the sword, and pillaged the country round. Nijabat Khan, the ancestor of the present Nawab of Kunjpura, was taken prisoner on this occasion. Ahmad Shah, who was in the Deah, was unable to cross the Jamuna in time to prevent this disaster, but at length he forced the river near Bagpat and advanced against the enemy, who, encamped at the time at the village of Pashu Kalan, where the battle of 1800 A.D. had been fought, retreated to Panipat. There the Mahrattas strongly fortified themselves; and the line of their entrenchments can still be traced on the plain between Risala and Panipat. The Duranis encamped close in front of them on the plains north of Risala and Ujain: and for five months the two armies, numbering more than 400,000 souls, remained engaged in fruitless negotiation and constant skirmishes. The accounts of the horrors of that time given by the people are very striking. The whole country round was devastated by the opposing hordes, and the inhabitants fled, inasmuch that the people say, that besides the town, only the three villages of Phurlak, Dahn, and Bala were inhabited at the time of the actual battle. The Durani army had free access to their camp on all sides; while they gradually consumed the Mahrattas more and more to their entrenchments. The latter had long ago consumed all the provisions obtainable at Panipat; at length supplies wholly failed; and on the 6th January 1761 the Bhao advanced to action. The battle is fully described by several authors. The Mahrattas were utterly routed and many of them were driven into the town of Panipat, whence next morning the conqueror brought them out, distributed the women and children, and massacred the men in cold blood. The fugitives were followed all over the country, and killed wherever they were overtaken. It is said that 200,000 Mahrattas were slain in this battle. The people still point out the spot where the Bhao stood to watch the fight, marked by an old mango tree which has only lately disappeared. They say that the Mahratta General of artillery, one Bahram Ghori, had been insulted by the young Bhao, and in revenge put no balls in his guns, otherwise the Gilijs as they call the Ghilani followers of Ahmad Shah would certainly have been beaten; and that the Mahratta fugitives were so utterly demoralised that the Jat women beat them with baskets, made them get off their horses, and plundered them royally.

50. No sooner had the Mahrattas temporarily disappeared than the Sikhs appeared on the scene of action. In 1763 they defeated Zin Khan, the Durani Governor of Sirhind, and took possession of the whole of Sirhind as far south as Panipat. Tradition still describes how the Sikhs dispersed as soon as the battle was won; and how, riding night and day, each horseman hurled his belt, his scabbard, his articles of dress, his accoutrements, till he was almost naked, into successive villages to mark them as his.' Raja Gopal Singh on this occasion seized Jind, Saldon, Panipat, and Karnal, though he was not yet strong enough to hold them; but in 1772 he was confirmed in his possessions up to within a few miles north of Panipat and west of Karnal, as a tributary of the Delhi Emperor. At the same time Gurdit Singh seized Ladwa and Shamgarh up to within a few miles north of Karnal. A considerable part of the Indri pargana fell to the share of Sardars Bhanga Singh and Bhag Singh of Thanesar, and the chiefs of Kaithal and Ladwa, while part was conquered by leaders of little note belonging to the Jamernyan section of the Dullawalla confederacy. The Nawab of Kunj-pura managed with difficulty to keep the whole of the revenues of a considerable number of estates, in others he was forced to give a share to the Shamgarh Chief and the Sikhs of Chural.

51. While Indri was conquered by confederacies of horsemen from the Marjha, Kaithal fell into the hands of a Malwa Sikh family, closely connected with the Phulkian Chief of Patiala, being in fact the hereditary religious guides of that house. In A. D. 1733 Kaithal was held from the Delhi Government in jagir or farm by one Kaur-ud-din Khan, a Biloch by tribe, who held some important office in the Government; this man was slain in the massacre of Delhi by Nadir Shah in A. D. 1738. Azim-ali-Khan, of the same family, seeing the declining state of the Government, unsavourd to shake off his allegiance and assume independence. He gave out the different villages in farm and returned with a force to collect his revenues. Ikhtiar Khan, an Afghan, was one of the principal zamindars with whom he engaged, and who sometimes paid but as frequently resisted and appropriated the revenues. Matters continued in this state till A. D. 1751. Inayat Khan, Afghan, a zamindar of some influence, persuaded the people to join him, in resisting the demands of the Biloches, raised a considerable force for the purpose, and enjoyed the revenues himself. Matters continued in this state till 1755;—the successes of the Biloches and Afghans fluctuating, sometimes one, sometimes the other being successful as each could collect followers,—when in the year last mentioned the Biloches sent a Saiyid who encamped at Habri and sent for the Afghan chief; Inayat Khan, suspecting treachery, sent his brother Ghulam Bhik in his stead, and him the Saiyid put to death. Inayat Khan fled, and the Saiyid obtained easy possession of Kaithal, where he remained three months collecting revenue, but directly his

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Political History.

The Sikh Invasion.

Conquest of Kaithal by the Sikhs.

Chapter II. II.

Political
History.
Conquest of Katthal
by the Sikhs.

back was turned, Inayat Khan again stepped in and assumed possession.

In A.D. 1756 Tahawwur Khan, brother of Kamr-ud-din, came with a force to claim his late brother's *jagir*. He was opposed by Inayat Khan, who was beaten and fled, but a short time after during the same year, having collected a force, the latter made a night attack upon the city of Katthal and obtained entrance at the Siran gate; a fight ensued in the streets of the town, in which Tahawwur Khan's brother-in-law, who commanded, was killed and his army dispersed. The Afghans or attacking force consisted of only 500 men, while that of the defeated Billoches amounted to 1,000. Thus ended the Billoch possession; rule it cannot be called. They were never able to make head again, and Inayat Khan was left in undisturbed possession, collecting the revenues and paying tribute to no one. He was not, however, destined to a long or prosperous rule, for he fell a victim to treachery in A.D. 1766. He had long been at enmity with one Azim Khan Marhal, of Samana, who had taken possession of Bhaurak, a village in the *pargana*, and 5 miles north of the town, of Pehowa. The Marhal invited him to the Katthal fair on pretence of making up the quarrel, and there murdered him; but had soon to repent his treachery, for Blik Baksh and Niamat Khan, brothers of his victim, collected a force, marched against Bhaurak, took it, and put the Marhal to death. The two brothers continued in possession, it cannot be called government, of Katthal till A.D. 1767; when Bhat Deen Singh advancing from Bhushohi encamped at Kamana, where he collected further forces and munitions of war, and then marched against Katthal, which encountered after but a weak resistance and thus commenced the Sikh rule.

Blik Baksh fled in exile, but his brother Niamat Khan was treated liberally by the conqueror, who conferred upon him several villages in *jagir*;—one of which, *viz.* Ujana, his descendants retain to the present day. Thus in the short space of 25 years, *viz.* from 1738 to 1767, Katthal had changed rulers no less than three times.

Documented

Ended

1. Rule of Kings of Bahl...	...	...	A.D. 1738
2. Rule of Billoch	...	1758	...
3. Rule of Afghan	...	1766	...

Third battle of
Panipat.

52. Recalled by the Sikh conqueror Ahmad Shah appeared for the last time in Hindustan, in 1767, and, defeating the Sikhs in several battles, marched as far as Panipat; but as soon as he disappeared, the Sikhs again resumed their hold of the country. In 1771 Rahundad Khan, Governor of Hansi, attacked Jind; but was defeated with heavy loss, while Gaspot Singh again seized Karnal. In 1773 Najaf Khan, the Imperial Wazir, marched in person to restore his authority. The Sikhs invited the aid of Zabita Khan, a Rohilla Chief, who had rebelled, and joining their forces with him, encountered the Imperial

army at Panipat, and fought a battle said to have been only less terrible than that of 1761. No marked advantage remained with either side; and by a treaty then concluded between the Rajas and the Emperor, the Sikhs relinquished their conquests in Karnal and its neighbourhood, excepting seven villages which Gajpat Singh was allowed to keep, and which probably included Shera, Majra Jatan, Dharmgarh, Bal Jatan, and Bala.

53. But the treaty was not observed; and in 1779 a last attempt was made by the Delhi court to recover its lost territory. In November of that year Prince Parkhanda Hakkt and Nawab Majibuddaulah marched out at the head of a large army, 20,000 strong, and met some of the minor Sikhs at Karnal. He made terms with these chieftains, who were jealous of the growing power of Patiala; and the combined forces marched upon that state. While negotiations were in progress, reinforcements advanced from Lahore, the Karnal contingent deserted, bribery was resorted to, and the Imperialists retired precipitately to Panipat. About this time Dharm Rao held the southern portion of the district on the part of the Mahrattas, and was temporarily on good terms with the petty Sikh chiefs north of Karnal. In 1785 he marched, at the invitation of the Phulkian chiefs, against Kaithal and Ambala; and after some successes, and after exacting the stipulated tribute, withdrew to his head-quarters at Karnal. In 1786 Raja Gajpat Singh of Jind died, and was succeeded by his son Raja Bhag Singh. In 1787 Begam Samra was operating against the Sikhs at Panipat, when recalled to the capital by Ghulam Kadir's attack upon Delhi. In 1788 Amba Rao united with Zabita Khan's son to make an incursion, and was again joined by minor Sikhs at Karnal, and levied a contribution on Kaithal.

54. In 1789 Scindia, having killed Ghulam Kadir and reinstated Shah Alam, marched from Delhi to Thanesar and thence to Patiala, restored order more or less in the country west of the Jamna, and brought the Patiala Diwan back with him as far as Karnal as a hostage. In 1794 a large Mahratta force under Anta Rao crossed the Jamna. Jindh and Kaithal tendered their homage; but the Patiala troops surprised the army in a night attack, and Anta Rao retired to Karnal. In 1795 the Mahrattas once again marched north, and defeating Raja Bhag Singh at Karnal, finally wrested that city from him and made it over to George Thomas, who took part in the fight. He had also obtained the jagir of Jhajjar, and making himself master of Hissar hurried the neighbouring Sikh territories; meanwhile Sardar Gurdit Singh, of Ludhwa, obtained possession of Karnal. In 1795 Begam Samra was stationed with her forces at Panipat to protect the western frontier during the struggle with Jaipur. In 1799 Scindia sent General Perron, to whom the *pargana* of Panipat had been granted, to bring the Sikhs to order. He recruited at Karnal,

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Third battle of Panipat.

Mahratta invasion.

Scindia.

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History.

Scindia.

where the Nawab of Kanjpur joined him; but matters were settled amicably, and the army returned via Panipat, where they were joined by Begum Samru, and took advantage of the opportunity to chastise Naulha and other large villages for not having paid their revenue to Perron's Collector. In 1801 Thomas made a foray through Karnal and Panipat, and then retreated to Hazi. The Sikhs asked the Mahattas for help against him; and Scindia, on the Sikhs promising to become his vassalries and pay him five lakhs of rupees, sent General Perron against him. In the battle that followed Thomas lost all his conquests, retired to British territory and shortly afterwards died. Scindia and Dhatrat were then made over again to Jindh by the Mahattas. The people of Bhopal in the north of Kanthal still tell how Thomas carried off hostages from their town and only released them when ransomed by the Bani of Kanthal.

Conquest by the
English.

55. On the 11th September 1803, Lord Lake defeated the Mahattas at the battle of Delhi; and on the 30th December, Daulat Rao Scindia, by the treaty of Sirji Anjanam, ceded his territories in the north of India to the allies: while the Partition Treaty of Poona, dated five months later, gave the provinces about Delhi, from that time known as the conquered provinces, to the English. The chiefs of Ludra and Thanesar with five thousand Sikhs fought against us at the battle of Delhi. Immediately after the battle Begum Samru made her submission to General Lake; and Bhag Singh of Jindh and Lal Singh of Kanthal were hardly less prompt. Their advances were favourably received, and in January 1805 they joined their forces with ours. The Sikh chiefs, who had actually fought against us at Delhi, continued to display active hostility, till they were finally routed by Colonel Barn at the end of 1804. In March 1805 an amnesty was proclaimed to all the Sikhs on condition of peaceable behaviour; but Gurdit Singh of Ludra was expressly excluded from this amnesty, and in April of the same year the English forces marched upon his fort of Karnal and captured it.*

State of the country
in 1805.

56. So ended that terrible time called by the people *Singh-shahi*, *ku Rara-Raura* or *Bhaugardi*, the "Sikh hurry-hurry," or the "Mahatta war," its horrors still live vividly in the memory of the villagers. The Sikhs never really established their grasp over the country north of Panipat; and they held what they did possess only as feudatories of the Mahattas. But the whole period was a constant contest between the two powers; and the tract formed a sort of no-man's-land between territories, and coveted by both but protected by neither, was practically the prey of the stronger and most audacious free-bouter of the

* According to the schedule attached to the Treaty of Sirji Anjanam, the tract under the Mahattas was held as follows:—Karnal, annual value Rs. 14,000 by Ghat Singh, Sikh; Dhatrat, Panipat, Rs. 20,000, by General Perron; Panipat Rs. 33,474 by Mahaji Dhatrat; Chausar, Rs. 9,922, Suopar, Rs. 20,345 and Ghatam Rs. 1,16,228, by Colonels John and Geo. Hastings. The whole list is extremely incorrect.

day whether hoarding from the Panjab or the Deccan, for nobody cared to spare for to-morrow what he might only possess for to-day. Even as early as 1760, Nadir Shah had to approach Delhi by way of the Deccan, as owing to the constant passage to and fro of the Mahatta troops, the country was so desolated that supplies were unobtainable; and 40 years later, when we took over the district, it was estimated that "more than four-fifths was overrun by forest, and its inhabitants either removed or exterminated." The arrangement of the villages in groups of small hamlets, spring from, and still holding sub-feudal relations with the large parent village, made the concentration of the population in a few strongholds natural and easy; and out of 221 villages in pargana Karnal the inhabitants of 173 had been wholly driven from their homes and fields. The royal canal had long dried up, and thick forest had taken the place of cultivation, and afforded shelter to thieves, vagabonds, and bands of prey. In 1827 Mr. Archer remarked that "only a very few years had elapsed since this part of the country was inhabited wholly by wild beasts." Deserted sites all along the old main road still tell how even the strongest villagers had to abandon the spot where their fathers had lived for centuries, and make to themselves new homes on sites less patent to the eyes of marauding bands. Every village was protected by brick forts and surrounded by a deep ditch and a wall of stone murt; every group of villages was at deadly enmity with its neighbours; and there are several instances where two contiguous villages, in memory of a blood feud dating from the Mahatta times, refuse to this day to drink each other's water, though otherwise on friendly terms. In 1829 the Civil Commissioner reported and the Governor-General endorsed his conclusion, that "the native administration took no concern in criminal justice or police, any further than as its interference in these respects might be made subservient to its immediate pecuniary gains; and that the village communities, while they held the property of their own country sacred, habitually committed depredations and aggressions on other villages or on travellers, and generally shared the plunder they obtained with the ruling power or principal local authority. Revenue administration there was none; the cultivator followed the plough with a sword in his hand; the Collector came at the head of a regiment; and if he fared well, another soon followed him to pick up the crumbs."

57. Meanwhile Lord Wellesley had returned to England and Lord Cornwallis had been sent out expressly to reform his policy. The leading feature of the new programme was the withdrawal from all the recently acquired territory west of the Jamna. And as that territory had to be disposed of, it was natural that the petty chieftains who had done us service in the late struggle, even if only by abstaining from an relinquishing opposition to us, should be rewarded. The whole

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State of the country in 1803.

Early English policy.

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country was therefore parcelled out between them and others. In the words of General Sir David Ochterlony who superintended the whole arrangements—

"In the acts of that day I see many of most lavish and impolitic profusion : but not one in which I can recognise true British liberality and generosity. The fact is notorious, that the policy of those times considered the mass of our acquisitions beyond the Jamma as incumbrances; and the Governor-General's Agent's only embarrassment was, how to dispose of what Government had declared they could not or would not keep, in the manner least likely to be ultimately injurious to our vital interests. With this object in view he formed a bill of *Jagirdars* ceded our ultra-Jamma possessions from Karnal to Agra."

The sovereign powers of the Rajas of Jindh, Kaithal, Ludwa, Thanesar, and Shuangark and of the Nawab of Kanjura, were confirmed and they were continued in the lands held by them under treaty from the Malirattas, except that Ludwa was deprived of Karnal, as already mentioned. Besides this Jindh was granted Gohana, and the five villages of Shera, Majra Jahan, Baljatan, Bahu, and Dharmgarh or Murau; and he and the Raja of Kaithal had the *pargana* of Barsat-Faridpur, made over to them jointly. The villages of Uchhu Siwana, Ranpar, Banwar, Kambhupura, Kailas with Mangalpur and Piyatwali, were made over to the Nawab of Kanjura. The Mandals, who held large *jagirs* in Muzaffarnagar, were induced to exchange them for so much of *pargana* Karnal as was left unallotted, the grant being made in perpetuity subject to the payment of a fixed quit rent. Begum Samru received considerable grants, including some villages of the tract, in addition to her original fee of Sardhana; and considerable grants were made to people who had done good service, and notably to Mirza Ashraf Beg and Mir Rostam Ali, about 1870. The *jagirs* which had been given in 1805-6 were declared grants for life only and were taken under our police supervision. They were gradually resumed on the death of the holders. In 1809 the Jindh Raja endeavoured to obtain from Government his old *pargana* of Karnal, but the *pargana* had already been allotted, and the endeavour was unsuccessful.

Final assumption of
sovereignty by the
English.

53. The policy which made us abstain from interference west of the Jamma did not long stand the test of actual practice. In 1806 Ranjit Singh crossed the Satlej with his army and marched to Thanesar, and it soon became apparent that either he or we must be master. The events and negotiations that followed, how the Sikh army marched about within 20 miles of our lines at Karnal, and how we were compelled to insist upon Ranjit Singh's withdrawal beyond the Satlej, are told in most interesting detail by Sir Lapel Griffin in his *Punjab Rajas*. The treaty of Lahore, dated 26th April 1809, and the proclamation of the 3rd of May following, finally included the country to the west of the Jamma in our Indian Empire, and with this event ended the political history proper

of the district. The times are still fresh in the memories of the people, and the names of Lord Lake and Sir David Ochterlony (*Fuljies Lony Ochter*) still familiar to their tongues.

59. By the proclamation of the 3rd of May 1809 the Sikh Chiefs of Malwa and Sirhind were taken under the protection of the British Government, and guaranteed "the full exercise of the rights and authority in their own possessions which they had hitherto enjoyed." They were to assist any British force passing through their country, and to aid in repelling invasion.* Two years later, a proclamation, dated August 23rd, 1811, announced the determination of Government to turn a deaf ear to all complaints against the chiefs brought forward by their subject *sardars*, who were warned that "the attainment of justice was to be expected from their own chiefs only." At the same time it was proclaimed, that the violent attempts by one chief or confederacy to seize upon the property of another, such as had been common in the past two years, would not be tolerated. It was doubtless the intention of Government to abstain, as far as possible, from interference in the *Chis-Satlej* States, but the history of the next forty years is one of increasing control on the part of the English officers, and waning authority on the side of the chiefs.*

The Resident placed at Delhi after the defeat of Scindhia, had charge of all our political relations with protected or independent States in the north-west of India; but though Sir David Ochterlony, who was stationed at Karnal, was theoretically subordinate to him, he really was the chief agent of Government in all affairs connected with the dependant chiefs. He was himself appointed Resident in 1819, and had assistants at Karnal, Ludhiana, and Sahiwal.

In 1821, the Resident at Delhi was replaced by a Governor-General's Agent, and the officer stationed at Karnal was made Superintendent of all the protected and Hill States. Next year the latter's office was removed to Ambala. In 1840, a Governor-General's Agent for the north-west frontier was appointed, with his head-quarters at Ambala. He had political control over all the Sikh States from the first, and in 1842, the civil jurisdiction in the lapsed territories, which had remained with the Agent at Delhi, was transferred to him.

Bhag Singh's share of the Thanesar lapsed in 1830 and Bhangra Singh's in 1850. Part of Juddi was acquired in 1834 and the Kailhal State was taken over in 1844. These

* It was impossible that the engagements made in 1809 should be literally fulfilled. They were founded on a total misconception of the political circumstances of the *Chis-Satlej* States, and the extraordinary manner in which a large part of the country was held by confederacies of Sikh horse-men, each of whom had a very petty share. "In 1819 Sir David Ochterlony frankly avowed to the Marquis of Hastings that his proclamation of 1809 had been based on an erroneous idea. He thought that a few great chiefs only retained territories like Jemsa and the Satlej; and that on them would devolve the maintenance of order." (Cunningham's *History of the Sikhs*, page 166).

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Relations of the English Government with the *Chis-Satlej* Chiefs.

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History.

Restoration of the
Regular Government
with the Old-School
Chiefs.

lapses were due to the failure of the families of the original conquerors and there were many petty upstarts from the same cause. Immediately after the annexation of Kaithal a group of 25 outlying villages known as Mahala Gubala was made over to the Raja of Jind in exchange of 35 estates lying to the south and east of Rejandh. In 1849 the Ladwa State was confiscated as a punishment for treason in the Sikh war.

When the Kaithal State was escheated, an assistant to the Governor-General's Agent was stationed at Kaithal, and when Thanesar and Ladwa lapsed, they were included in the Kaithal District.

Restoration of chiefs
to the status of
jagirdars.

60. For a considerable time our interference in the affairs of the dependant chiefs was mainly confined to the decision of disputes as to succession, and the settling of quarrels between State and State as to the surrender of criminals, the restoration of stolen property, &c. The internal government of each State was left in the hands of the chief, who enjoyed paramount criminal, civil, and fiscal powers. In all the larger, and some of the smaller States, transit dues were levied. As upstarts quarrelled our territory became much intermixed with that of the independent chiefs. Constant difficulties arose as to the surrender of criminals who had fled from our jurisdiction or from one Sikh State into another. In all but the most heinous cases, the chief in whose territory a criminal was found, was left to deal with him, and debtors and revenue defaulters were secure, once they had crossed the boundary of a neighbouring State. It was not uncommon to find four or five rival jurisdictions within a radius of 10 miles, and sometimes two existed in a single village. Such a state of things was productive of extreme administrative confusion. In the first Sikh war, some of the chiefs were actively hostile and others lukewarm and in 1847 all were deprived of their criminal jurisdiction. This was a great boon to the people of the country, who still speak with strong dislike of the "*faujdar*" of the *jagirdars*. In the same year the feudal service, which the latter were bound to render to Government, was abolished, and in lieu of it a commutation tax of Rs. 10 per mensem for every horseman, and Rs. 6 per mensem for every footman, whom they were bound to furnish, was imposed. This was afterwards commuted into a tax of two annas per rupee of revenue in *jagir* estate. In some estates the rate of commutation is higher, in a few it was reduced to one anna in the rupee for services rendered during the mutiny.

Two years later, the *jagirdars* were deprived of their civil powers, and made amenable to our courts. Thanesar, Kangpura, and Sharnagar were deprived of sovereign powers and reduced to the position of simple *jagirdars*. Finally in 1850, all *jagir* estates not already settled at the request of the *jagirdars* or

territories, were ordered to be put under cash assessment.

61. It will be convenient to give here a brief account of the Sikh families which ruled in Kaithal, Thanesar, and Ladwa.

62. The Kaithal State, as it was constituted when it passed by treaty into the hands of the British Government, was acquired by Bhai Deen Singh, the 4th son of Bhai Gurbakhsh Singh, himself a descendant of a Rajput commander of Jaisalmer. The father of Gurbakhsh Singh, Bhai Ram Dhal, had a great reputation as a saint. Gurbakhsh Singh himself "had little of the saint about him, and thought more of annexing territory than of religion." With the countenance of Raja Abul Singh, of Patiala, whom he had accompanied on many expeditions, he conquered a number of villages for himself, including some in the north of the present Kaithal taluk. He left five sons, among whom his possessions were divided. The second son, Bhai Deen Singh, enlarged his dominion, first by the capture of Kaithal in Samvat 1824 (A.D. 1767), and then by the conquest of Chika and Pehowa. He or his brother Buddha Singh also seized Thanesar, Amin, and other estates in Indri, but Thanesar was soon lost, and most of Bhai Deen Singh's possessions in Indri fell into the hands of the chiefs of Thanesar and Ladwa. Bhai Deen Singh appears to have been a man of violent and domineering character. He built the original fort of Kaithal and several smaller forts about the district, and brought a water-course from Mangus to Kaithal. He had four wives, viz., Rupkaur, mother of Bahad Singh; Ramkaur, mother of Khushhal Singh; Mai Bhoi, no issue; Mai Bhagwan, mother of Lal Singh. Jagat Singh Marhal became his agent and adviser. He died about 1779 having ruled 11 or 12 years. He amassed about 12 lakhs of rupees, and the knowledge of this is said to have excited the envy of the Rajas of Jindh and Patiala that they caused the agents of the Delhi ruler to entice the Bhai to Delhi under pretences of having a jagir conferred upon him. On his arrival at the seat of Government, Deen Singh was confined, and only released on the promise of paying 8 lakhs of rupees, 6 of which he paid and gave his son Lal Singh as security for the remainder.

Of his three sons, Khushhal Singh, having died in childhood, is never mentioned. Bahad Singh succeeded to the rule, his elder brother being under restraint at Delhi;* but Lal Singh's mother having obtained his release on payment of Rs. 40,000, he shortly returned and assumed the government, driving his brother, who strongly opposed him, to Kulaman. Thence Bahad Singh acquired Bullada, but was immediately put to death by hired assassins instigated by his worthy brother. Lal Singh

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Account of families of former ruling chiefs.
The Sikh Bhai of Kaithal.

* Griffin (*Punjab Rajas*, page 48) says "Lal Singh was in confinement as a rebel against his father."

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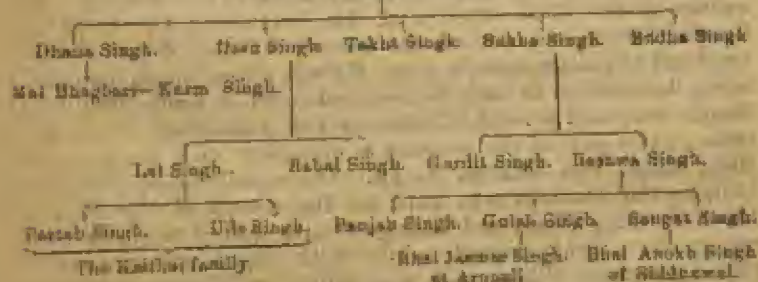
Political
History.The Sikh State of
Kaithal.

enlarged the dominions which he had inherited by fresh acquisitions, and he was, in 1809, the most powerful of the Cissatiej chiefs after the Raja of Patiala. He is described in the *Rajae of the Panjab* as "a very able man, though utterly untrustworthy, and so violent and unscrupulous that the English authorities had the greatest difficulty in persuading him to maintain anything like order." He resided chiefly at Kaithal. He drank deep, but appears to have been held in some respect by the lesser chiefs, who submitted frequently to his arbitration. He did good service to Perron in defeating George Thomas, and was rewarded in consequence by the gift of *pargana* Sullhar on payment of a *narrana* of Rs. 60,000, little better than one year's revenues. His services were acknowledged by Lord Lake and rewarded by a handsome *jagir*, *Gahana*, in which, however, he had only a life interest. He added to the fort of Kaithal, indeed may almost be said to have built it, for it was nothing but a mud building before. Its picturesque towers are now visible for a long distance. He reled for 33 years, dying about 1819 at the age of 49. He left behind him the character of a tyrant. On his death, his sons being 3 and 4 years old respectively, the government was carried on in the name of the elder Pariah Singh, under the regency of his mother Sahib Kaur; but the boy only lived to the age of 12 years, and died of small-pox in 1823. Bhui Ude Singh,* still a boy, succeeded under the regency of Sahib Kaur, who even in after life had great influence over him; indeed she was more the ruler than he was, and to this perhaps may be attributed his being at variance with the neighbouring chiefs and at constant issue with his own villagers. He resided chiefly at Kaithal but frequently at Pehowa, and both places bear witness to his taste for architecture. He enlarged and beautified the fort of Kaithal, built the palace after the model of the house of Sir David Ochterlony at Karnal only on a more imposing scale, and near it a bridge over the Bidkhar Tirath, remarkable for nothing but want of breadth and its level surface. At Pehowa the garden house is a great credit to the taste of the architect, but was left incomplete on his death. He built a house and laid out a garden likewise at Kookul near Hardwar. A masonry band that he erected across the Saraneti, near Pehowa which threw water down a cut irrigating numerous villages for 16 miles to Kaithal, was destroyed by the British authorities after conquest. He is described as debauched in private, in public a tyrant. He was bed-ridden for some years of his later life, and died at Kaithal on the 14th of March 1843 A.D. when the state lapsed, falling heirs, to the protecting power. Mr. Gresham was sent with a small escort to carry out orders of Government. But the Queen mother and her advisers, encouraged by the

* "It is right that I should express my belief that the late Bhui Ude Singh was son the son of Bhui Lal Singh, and that the latter, when a prisoner at Delhi, was rendered incapable of having children." *Report of Major H. M. Lawrence*, dated 20th April 1844.

secret advice of the agents of the Rajas of Patiala, Jindh, and Nabha, met every demand with an evasive answer. A strong remonstrance was addressed to the Rajas, and their agents were in consequence withdrawn. But things had gone too far for a peaceable settlement. On the 10th of April a riot broke out in Kathal, and Mr. Grantham's escort was attacked and forced to retreat. Re-inforcements were despatched and the town and fort were speedily occupied. The Queen mother was allowed to settle at Pakowa where she died, never having to the very last moment given up her hope of restoration to the government of Kathal. The succession was also claimed by Gulab Singh, the Bhai of Arnauli, a collateral relation of Udo Singh. But it was held that Gulab Singh had no claim to any of the conquests made by Dean Singh, but only to villages acquired by his own grandfather Sukha Singh, or by Gurbakhsh Singh, father of both Dean Singh and Sukha Singh. A handsome allowance was made to Mahlab Kaur, widow of Udo Singh.* The genealogical tree of the family is as follows:—

BHAI GURBAKHSH SINGH.



The Bhaia of Arnauli came under the reforms of 1849, and ceased in that year to exercise any administrative functions. The present representatives of the family are Bhai Jasmer Singh, who resides at Arnauli in the northern portion of the Kathal taluk, and Bhai Anokh Singh, who resides at Badda or sometimes at Siddhawal near Patiala. They are Honorary Magistrates within the limits of their jagirs.

63. The founders of the Ladwa State were two brothers, The chiefs of Ladwa named Sahib Singh and Gardit Singh, who belonged to the Kheranwalia mird. They came from the Manjha, and, after the battle of Sirhind, established themselves at Bahain and Ladwa. Their principal conquests are now included in the Pipli taluk of Ambala, but they held a number of villages in Indri, some of which were made over to Kirpal Singh, the brother-in-law of Sahib Singh, and now form the Saga and

* For further particulars as to the Kathal family, see the *Manuscript to Major Lawrence's "Report on the Kathal territory"* and Major Abbott's *"Political Report."*

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History.The Chiefs of
Ladwa.

Shamgarh jagira. Sahib Singh was killed in action near Karnal. Gurdit Singh was succeeded by his son, Ajit Singh, who obtained the title of Raja from Lord Auckland for building a bridge over the Sarasti at Thanesar, and also as a compliment to Maharaja Ranjit Singh, to whom he was related. He is described as "a dissipated, ill-disposed person, a tyrant in his own family, and as a chief, perfectly reckless" (article in *Calcutta Review* of October 1844 by Sir H. Lawrence). In the first Sikh war he threw in his lot with the Lahore Darbar, and joined the Khalsa army which was operating in the neighbourhood of Ludhiana. He was captured and imprisoned at Allahabad, but destroyed his jailer and escaped. His sons were kept under surveillance at Saharanpur, and he himself is believed to have died in Kashmir.

The Chiefs of
Thanesar.

84. The founder of the Thanesar chiefship was Mith Singh. Captain Larkins states in his report on the Summary Settlement of Thanesar that Mith Singh was of a family of Nidga Rajputs of the village of Ajuala, *taluka* Panchgrihan in the Manjha; but Captain Abbott states that he was a Jat, that his home was at Bhatsi near Sarhala in the Manjha. He embraced the Sikh religion at Amritsar from the hand of Gurdial Singh, and entered the service of Tara Singh Gheba, the head of the Dalkowalia misl. He was a fine young man and, being determined to lead, he deserted with a party from Tara Singh, mastered several villages in the Jalandhar Doab, and came to this part of the country in company with his nephews Bhag Singh and Bhangra Singh. The royal fort at Thanesar built by the Marhala was held by the troops of the Khai of Kaithal; Bhag Singh and Bhangra Singh waited their opportunity in the neighbourhood, while Mith Singh advanced with the conquering Sikhs, and was killed at Meerut. Bhangra Singh and Bhag Singh, with the assistance of the Ladwa Sardars and Karam Singh Nirmalla of Shahabad, after one failure, made a successful night attack and possessed themselves of the fort of Thanesar. After the death of Bhair Dev Singh of Kaithal, a large part of his possessions in Indri, and some estates now in Pehowa, fell into the hands of the two Thanesar Sardars and of the Ladwa Chief. The territory conquered by Bhangra Singh and Bhag Singh comprised a number of estates in the present Indri *pargana*, some villages in Pehowa, and a large tract in the Pipli *taluk* of Ambala. A partition was made Bhangra Singh taking $\frac{1}{3}$ th and Bhag Singh $\frac{2}{3}$ th. Sardar Bhangra Singh was a savage and determined ruler, and was the only Cis-Satluj Chief whom Ranjit Singh feared. He seized Ghiasoddinnagar, east of the Jamna, but the Mahratta Bhao Rana took it from him and gave him Bidhuli instead. Lord Lake gave him some other territory east of the Jamna, in exchange for Bidhuli, and it was held by him during his life. In 1806, with the assistance of the Ladwa Sardar Gurdit Singh, the Dalkowalias wrested Adoba

and Singhar from the Lamiowalia mist, and Adoha was assigned as Bhanga Singh's share of the conquered territory. It was taken from him and restored to the Landa mist by Ranjit Singh; but when those territories came under British protection it was retransferred to Bhanga Singh. He died in 1815, leaving a son, Fattah Singh, and a daughter by his wedded wife, and a son, Sahib Singh, by a concubine. The daughter, Karm Kaur, married Karm Singh, the Raja of Patiala, and six villages in Indri were given as her dowry. Sahib Singh had a *jagir* of 9½ villages in Indri, and was succeeded by his son, Bishn Singh, who died a few years ago without male issue. The remainder of Bhanga Singh's estate descended to his son, Fattah Singh, who died in 1819, leaving a mother Mai Jian and two young widows. Mai Jian managed the estate till 1830 and died in 1836. Ratan Kaur, one of the widows, died in 1844, leaving the other widow Chand Kaur in possession of the estate, which lapsed on her death in 1850. Bhag Singh, the brother of Bhanga Singh, died in 1791, leaving four sons, three of whom died childless. The estate descended to Jamiat Singh, the son of the youngest brother, Raj Singh, who also died childless in 1832, when the estate lapsed.¹

65. The state of that part of the Karnal District (*lahal* Panipat and *pergana* Karnal), where the Sikh power had never been firmly established when it came to us in 1803, has already been described at page 42. In Indri and Kaithal the Sikh rule lasted for about 80 years. Its character varied with the character of the chief for the time being, but it was generally harsh and tyrannical. How bad it could be under a vicious ruler may be gathered from Captain Abbott's description of the state of things he found existing in the Ludwa State when it was declared forfeit, on account of the Raja's conduct during the first Sikh war. "The Jats . . . were fearfully oppressed and many of their number driven to seek subsistence in other territory. The oppression was not confined to the taxes I have enumerated, but their sons were obliged to attend on the Raja and were forced to take the Sikh religion. Their grounds were taken for preserves, their cattle seized and appropriated if caught trespassing in their jungles, in which, however, they were allowed to graze on payment of a fixed sum per head of cattle."

The Bhain of Kaithal had a sturdier population to deal with, and oppression was sometimes met by armed resistance. Major H. M. Lawrence, Assistant Agent to the Governor-General, N. W. Frontier, held charge of Kaithal for six or seven months after annexation. In the various reports which he submitted a striking picture is presented of the state of disorder to which the tract

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The Chiefs of
Thanesar.Sikh rule in Indri
and Kaithal.

(1) The above account of the Thanesar family is chiefly taken from Mr. Wynyard's Settlement Report of Thanesar. It differs in some particulars from that given on pp. 23—24 of Griffin's Punjab Rajas.

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History.Sikh rule in India
and Kathal.

had been reduced by the harsh rule of Ude Singh. Every man's hand was against his neighbour. Bloody trays were of constant occurrence, and the officers of the Sikh Government found it often to their interest to go shares with the marauders. The frontier villages especially were at constant war with their neighbours in Jind and Patiala. The cattle went to grass guarded by herdsmen armed with matchlocks, the very wells had to be protected by towers in which the cultivator could take refuge with his implements of husbandry on the occurrence of a sudden alarm. The smaller villages were robbed by their Government on the one hand, and by their more powerful neighbours on the other. Many were altogether deserted, the owners taking refuge in larger villages which were able to defend themselves both against their rulers and their fellow-subjects.

Soon after leaving Kathal Lawrence wrote :—

"The inhabitants are a very fine race, excellent cultivators, but, in hard times and dry seasons, as excellent marauders. A single Jatt village of Kathal has been known to drive off in one day, a thousand head of cattle from Nabha, Jind, Patiala, or Karnal; and within the week the herd are scattered among the villages of Meerut or Saharnpore, a hundred miles off. The other two-thirds of the population are Bangurs (Mausuman Rajputs), Goojars, and others, some Hindus, some Mohammedans, but all cultivating very little, grazing and cattle lifting a great deal. We have seen a Bangur village, with fifty or sixty pucker (thicket) wells, all but one in ruins, and thousands of acres of fine land allowed to run to waste. Indeed, except in a few Jatt villages, the cultivation in the midst of the forests of small stunted Jhund (a mimosa) and Ben trees, as seen from the top of any of the robber towers, seem as little islands in the midst of the ocean. The people in fact live by stealing, and by the sale of ghee and milk, the produce of their flocks, and are, or rather were, as ready for a raid as ever were the MacGregors and Campbells to harry their lowland neighbours. We happened shortly after the lapse of Kathal to be riding along the Jind and Kathal border with Rajah Saroop Singh, when seeing a party of villagers slugging merrily while with their cattle treading out the saturated fields for rice cultivation, he laughing said "Ah, Sahib, they don't and have been thus employed a year ago." "Why not?" we asked, and were answered "Because their neighbours would have been down upon them, and driven off their cattle." (Lawrence in *Calcutta Review* of October 1843.)

Great estates like Chhatar, Pat, and Bhagal would not stand much oppression.

"The people were accustomed to pay no revenue except upon absolute compulsion.....Kathal was some years ago as lawless a tract as any in India, but something, I hope, has been effected for its improvement.....I may instance the Jatt village of Chhatar which was formerly the very head-quarters of oppression to authority, and is said never to have admitted a Sikh within its quickest hedge. It was reckoned able to turn out a thousand matchlocks, and the four wards of the village were harried against one another." (Lawrence's Settlement Report).

The Jats of Paj withstood the army of the Bhui, though assisted by the forces of the Jindh chief, for eight months. The Tular Rajpoots of Gumbhala showed their independence by threatening Bhai Lal Singh with brickbats if he attempted to violate the privacy of their houses by riding through the village on an elephant. The Bhui had the good sense to take this rough remonstrance in good part, and remarking "We Jats have no ponds, but they have," ordered the elephant to be taken round the outside of the village.

The Sikh system of revenue collection will be described in a later chapter. In practice it consisted in squeezing the weak dry, and getting as much out of the strong as they would pay without resorting to armed resistance.

The artisans in Kaithal seem to have been heavily taxed, if the local rhyme is to be trusted.

"Bulaha jukha
Ki kaho Bakhahu kana
Panoh rapiya ek thama.
Bulaha dhohi
Ki kaho Bakhahu ketra
Panoh rapiya ek potira."

which means that the Bhui orders the one-eyed Bakhahu, his gardener, whom he also calls familiarly a buffalo's calf (ketra), to levy five rupees for each loom and washing board.

60. Crimes of violence were rife, and, where any courts existed, they were corrupt and ineffective.

"As elsewhere shown, all crime is punishable or rather commensurable by fine; the robber pays his "dand" (amlet) and goes to rob again, and only when making himself very notorious or audaciously plundering his master's subjects, instead of those of his neighbours, he may have his right hand cut off, or be chained in an outer room or verandah of the house, fort, or castle of his ruler, until his friends ransom him..... The fact is that justice is a farce in all native states; the gainer pays his *chotmanah* and the loser his *manah* and while the latter (the fine) is only a muley upon unseasonal pains the former, the grateful present, added to delays and expenses, may entail ruin, making the injured always prefer private arbitration, and yielding up half their backs to preserve the other half..... In Kaithal it was, and in Patiala it is still,the fashion for the judges to pass as many years in imprisonment as on the bench; probably as a means of eliciting for the Sircar (Government) a portion of the bribes supposed to have been given." (Lawrence in *Calcutta Review* of October 1844).

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If this was the state of things in the larger states, it may be conceived that disorder was still more rife in the villages owned by petty patildars, too weak to govern, but strong enough to oppress. Theoretically the Sikh patildar with a fractional share of a village was as much a sovereign as the Kaithal or Ladwa chief.

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"Every Sikh in his patte affected perfect independence. Grant and the evils that have arisen therefrom to the protected states. According to the treaty they were as long as possible not interfered with, and every Sarfar and every pattidar, large or small, was his own magistrate as far as his own internal arrangements went—the political agent only having authority in the quarrels and border disputes between one Chief and the other, or where robbers passed from one state into another. But it was soon found that, although some of the Sardars managed their estates well enough, others, and the petty pattidars especially, harboured robbers and tyrannised over their cultivators. Indeed, as their own families increased and war and rapine decreased, there being no field left open but the Punjab army and agriculture for their sons, these pattidars have tried every means of driving the sole cultivators from their lands, so that they might, through slaves or personal servants, cultivate the soil for themselves. Strictly speaking, we had no right to interfere even under Sikh oppression, but having laid themselves open by harbouring thieves and robbers, they were deprived of magisterial powers." (Lawrence in *Calcutta Review* of October 1844).

In reviewing Lieutenant Barr's journal of his march from Delhi to Peshawar in 1849, Sir H. Lawrence gives so graphic a sketch of the state of Indri at a time when only some thirty of its villages had lapsed to the British Government, and the rest were the patrimony of Thanesar, Ladwa, Kunjpura, and a number of petty chiefs and pattidars, that it is worth while quoting his remarks at length.

"Our author marched from Delhi to Karnal, half a dozen miles beyond which city he entered the protected Sikh states. The first place which he notes down in his journal is Azimabad, more generally known by the people as Telowara. It is a large town, famed in the annals of the last hundred years as the scene of a great battle. It has been in many hands and is now in as unpleasant a predicament as any corporation can desire, that is, it belongs in equal shares to the Patan Nawab of Kunjpura and the Shanganth Sikhs. Partnerships everywhere offer signs of intemper; but it is not easy to conceive the contentions between Sikh and Patan co-partners, each, and particularly the stronger party, always desiring to cut the partner short by a stand-up fight. These feuds often involve the loss of crops to the parties, and between them the cultivators and traders fare most wretchedly. Three miles farther is Lankothere, which is thus described:—

"We reached Lankothere, which is about eleven miles from Karnal, at half past seven, and pitched our camp just beyond the extremity of the village, which is small and protected by a mud

(1) The peasant was not unfamiliar with oppression before he came under the Sikh yoke, but his ancestral fields had rarely been interfered with. The sting of the Sikh rule lay in this that the manorial had planted at his own doors a village tyrant of peasant extraction like himself, who cast greedy eyes on his lands, and had time and inclination for constant acts of petty oppression.—J. M. D.

(2) i.e., Tinned.

(3) This must even then have been an exaggeration. The place possessed a fine imperial seal and a good tower, but was never large, and is now greatly decayed.

(4) i.e., Nankhori.

wall. Two or three lofty buildings stand in the centre of it, and are evidently intended as watch towers, whence a good look out may be kept" (Barr's *Cabool and Panjab*, p. 11).

On leaving Loodkhoree it is observed:—

"Circular towers, similar to those at Loodkhoree, constructed either of brick or mud overlooked the neighbouring district, and stood in the midst of every collection of huts, which, as far as I could observe, was invariably enclosed by a mud wall, thereby plainly indicating that the protected Sikh States, which we had entered (this morning, *arr.*) or have been, at no distant period, subjected to the mighty prowlings of predatory marauders" (Barr's *Cabool and Panjab*, pp. 11 and 12).

Lieutenant Barr may well say so, and, had he gone down the Goodhiana road to Ferozepore or through Kaithal, he would have been still more convinced of the original pugnacity of the inhabitants of the protected Sikh States. Such towers used to protect every wall in the country—the three at Loodkhoree were probably built in opposition to each other by rival leaders of the little town or rather village. It is now singly held by an old lady as her principalty, though yielding less than a hundred pounds sterling a year. It was the chief place of a circuit of a dozen or so villages, held in co-partnership by different Sikh chiefs and parties, but now divided off into separate states. The neighbourhood is a very bad one, and we wonder much that Lieutenant Barr does not make a note of his having been robbed. He must have been so, but, perhaps out of delicacy omitted the entry."

67. During the next sixteen years the whole face of the country was changed. Kaithal, Ludhva, and Thanesar lapsed, and the other feudatories were reduced to the level of mere assignees of land revenue. After considerable hesitation a cash assessment was given to the *zamindars* in *jagir* estates, but its collection was left in the hands of the *jagirdars*. The country settled down rapidly, and notwithstanding its proximity to Delhi it weathered the storm of 1857 without suffering very serious damage.

When the mutiny broke out Mr. Macwhorter, the Magistrate of Panijat, was at Delhi, and was killed there. Mr. Richardes, the Uncommissioned Deputy Collector, immediately took over charge; and though every other European fled, and the fugitives from Delhi warned him that the rebel cavalry were following on their steps, and though "burning and pillage reached to his very doors," he bravely stayed at his post, kept more or less order in the district, was active in collecting supplies for the troops passing through and for the army besieging Delhi, and succeeded in collecting more than seven lacs of revenue, which he sent to the army. For these services he was appointed Deputy Commissioner of the 1st Class. Directly the news of the outbreak reached Indb, the Raja collected his troops and proceeded by forced marches to Karnal, which he reached on the 18th of May. He restored order in the town and its vicinity, marched down the grand trunk road in advance of the British columns, turned his forces on Panijat, recovered Simbhalka which had been seized by the rebels, and

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kept the road open between Karnal and Delhi. The Maharaja of Patiala was no less prompt. He held Karnal, Thanesar, and Ambala in our behalf, and kept the road open from Karnal to Phillour. The Chauhans of the Karnal Nardak behaved well. They raised a regiment of cavalry, and they also supplied a body of 250 *chankidars* for the protection of the city and civil lines, where our ordnance magazine was established. The Maudal Nawab of Karnal, Ahmad Ali Khan, from the very first placed himself and his resources unreservedly at our disposal. For these services his quit-rent of Rs. 5,000 a year was released to him and his heirs made in perpetuity; and he was presented with a *khilat* of Rs. 10,000 in open darbar.

In the Thanesar district Captain McNeile was Deputy Commissioner. His principal difficulty arose from the presence of a company of the mutinous 6th Native Infantry, which obliged him to have always at hand part of the Patiala forces to keep them in check. The disarming of this company on the 14th July set the Deputy Commissioner at liberty, and from that time he made his head-quarters at Karnal. Mr. Devion, the Assistant Commissioner, was detached to Shahabad, and Lieutenant Parsons was sent from time to time to reduce turbulent villages, especially towards Kaithal, or to watch the fords and ferries of the river Jamma. In anticipation of a visit from the Delhi mutineers, Captain McNeile had, at the first, destroyed the stamp paper, and soon afterwards sent his treasure to Ambala; while the jail was fortified and the jagirdars called out. At one time it was rumoured that Ranghars from Hissar purposed to rescue their fellow-slaves from the Thanesar jail, and the 31st May was the date fixed upon for the attack. Every preparation was made to repel it, but it did not take place. The Ranghar prisoners were immediately afterwards secretly removed to Ambala to be beyond hope of rescue. On June 9th the Raja of Patiala was compelled to draw off his forces from Thanesar in order to protect his own capital, which was in some peril from the Jalandhar mutineers; but as soon as he learnt that they had passed by, his troops were sent back to Thanesar, much to the relief of Captain McNeile.

As was to be expected at such a time, the more turbulent spirits among the people took advantage of the temporary suspension of authority to give trouble both to Government and to their neighbours. Even in the Panipat Bangar sixteen of the largest Jat villages in the Naultha *zail* refused to pay their revenue, drove out the Government village watchmen, joined in the disturbances in the Rohtak district, went to Delhi, whence they returned after an absence of 22 days, and threatened to attack the Collector's camp; while nineteen other large villages, mostly in the Bhaki and Koram *zails*, rioted, burned some Government buildings, committed various robberies and murders, and refused to pay revenue. The Gajars were, of course, not behindhand, and plun-

dered generally about the country. All these villages were fined and punished in various ways; and *landbarbars*' allowances to the amount of Rs. 7,317, representing a revenue of Rs. 1,46,340, were confiscated. In the city of Panipat open sedition was preached, especially in the shrine of Bhalu Kalandar; and an attack upon the Collector's camp was only prevented by some Hindu troops hurrying up and turning their guns on the town. Hostages were seized, some few men hanged, and the pension of the shrine reduced from Rs. 1,950 to Rs. 1,000 a year. The *tahsildar* of Gharautda, a Pasiput man, had to be removed for disaffection.

If such was the behaviour of the Bangar, it may be imagined that the Nardak was not less troublesome. Some of the large villages caused much anxiety, notably Sirwan, Asandh, Jalmuna, Gaudar, Salwan, Balla, Daohant; they had no political cause to view, but the inhabitants being Muhammadan Rajputs and still unwearied from turbulent and predatory habits * broke loose in deeds of violence in general, and refused to pay the Government land revenue. Balla resisted a regiment of cavalry under Major Hughes, killing a native officer and some troopers, subsequently receiving severe punishment from the guns of the loyal Mandal Chief, Ahmad Ali of Karnal. Jalmuna collected a large number of Rajputs armed with the intention of releasing the prisoners of the Dhamwar jail, a purpose which they failed to effect. Asandh seized the Government police station in the fort at the village. That these villages, however, had no sympathies in common with the mutinous soldiers was evidenced from the fact of their robbing, even to a state of nudity, fugitive soldiers on their way from the Panjab to join the rebel forces at Dehli. Hahri, though a Rajput village, was distinguished for good conduct and loyalty under the guidance of intelligent headmen. It may be said generally that the further Nardak showed extreme reluctance to give up the fugitive multitudes from Ferozpur or Jalandhar, and positively refused to pay their revenue; and a detachment with some guns under Captain McNeile marched against them. They first attacked Balla, a large and always troublesome Jat village; and "signal chastisement was inflicted in a fight in which scarcely a village in the higher Nardak but had one or two killed or wounded." The Balla people presently redeemed their fault to some extent by giving material assistance in coercing their neighbour Munk. The skirmish had a very good effect upon the country-side; and when Captain McNeile marched upon Jalmuna, it submitted at once, while the Asandh people ran away into the jungles, and their village was plundered and burnt. Heavy fines were realised from the recalcitrant villages. The *landbarbars* of Garhi Chhaju paid their revenue into the *tahsil* without its being

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* The old Nardak song is expressed in a rhyme, which concludes as follows—

Ek din marhen, padhen din khakiya
Na karne Aghal na lahar chand."

Which means—

We will one day and not far distant
Kill as hables, and pay no revenue.

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demanded, and were rewarded by a personal grant which the survivor Ji Han still enjoys. Sarhara, a Jat of Palri, aided some European fugitives from Delhi, and received a revenue-free grant of land in perpetuity. And Kalandar Ali Khan of Panipat gave material assistance, and was rewarded by a pension. On the whole, the district suffered little. The Government treasury and records escaped unharmful, and but little of the land revenue remained unmolested. The canal irrigation of the autumn harvest of 1857 was only 3 per cent. less than that of the same harvest in the previous year. In 1858 the numerous village forts which had been built in the times of the Sikhs were dismantled.

Developments since
annexation.

65. Some conception of the development of the district since it came into our hands may be gathered from Table No. II. It is probable that the figures are not always strictly comparable, these lands not being the same in all cases from one period to another. But they may be accepted as showing in general terms the nature and extent of the advances made. And indeed the advance is not to be tested by figures only. The state of the country, when we occupied it has already been fully described in the preceding pages; and the contrast which that state presents with its present condition needs to be emphasized by no comments.

SECTION C.—ADMINISTRATIVE.

Constitution of the
district.

66. The district consists of two portions, the administrative history of which was wholly distinct till the year 1862. The older portion includes the Panipat *tahsil* and the Karnal pargana of the Karnal *tahsil*; it came to us by conquest, and formed a portion of the Delhi territory, and of the Panipat district of the North-West Province. The other portion, consisting of the remainder of the district, came to us by lapse of feoffiture from the protected Sikh chiefs who held it, and formed till 1862 part of the Thanesar district of the Cis-Satluj division of the Punjab. The administrative history of the two is, therefore, entirely distinct, and must be treated separately for each. The land revenue administration of the district is not noticed in this section as it is fully discussed in Chapter V, Section B.

Administrative
history of Delhi
territory.

70. The provinces acquired by the Treaty of Surji Anjanam were known as the conquered provinces, and with the ceded provinces formed a sub-division of the Bengal Presidency, to which the Bengal Regulations were extended by Regulation VIII of 1803. But Sec. 4 of that Regulation expressly excluded from its operation the Regulations, past and future, the tract afterwards known as the Delhi territory, which roughly coincided with the present districts of Gurgaon, Delhi, Rohtak, and Hissar, and the Panipat *tahsil* and Karnal pargana of this district; and, in fact, consisted of the territory transferred from the North-West Province to the Punjab in 1846. The Delhi territory thus constituted was at first placed under a Resident at Delhi, aided by assistants who had no formally defined charges. But, as a fact Mr. William Fraser, one of the Assistants, exercised almost absolute authority in those parts, checked only by an unexercised right of appeal to

the Resident. A British Amil of the name of Rai Sada Sukh was appointed at Karnal. In 1819 the territory was divided into northern, southern, and central divisions, of which the northern consisted of Karnal, Panipat, Gampur, Gohana, Rohtak, Sonpat, and Mandlauli, and was placed in charge of a Principal Assistant. At the same time a Civil Commissioner was appointed at Delhi, who exercised civil, criminal, and revenue functions in subordination to the Resident. In 1820 the Civil Commissioner was abolished, and a Deputy Superintendent appointed in his place, who enjoyed no independent authority, but vicariously exercised the power of the Resident, as his Assistant, and in his courts. In 1822 the Bengal Presidency was divided, the ceded and conquered provinces forming the western province; and a Board of Commissioners of Revenue and Circuit was appointed for these provinces, with its headquarters at Delhi. The Resident lost his Deputy Superintendent, but became the Chief Commissioner on the Board, and continued to exercise independent political functions as Agent to the Governor-General. In 1824 the divisions of the Delhi territory were split up into the districts of Panipat, Rohtak, Hansi, Rewari, and Delhi. The Panipat district included Karnal, Panipat, and Sonpat, and the remainder of the northern division went to Rohtak. In the same year the Delhi territory was removed from the control of the Board of Revenue collectively, and placed immediately under the Resident and Chief Commissioner, who, however, continued to avail himself of the services of the Board in the transaction of all revenue business. In 1829 Divisional Commissioners of Revenue and Circuit were appointed throughout the Presidency, and the Delhi Commissioner transacted all business in subordination to the Resident.

In 1832 the office of Resident and Chief Commissioner was abolished, a Political Agent to the Governor-General taking his place; and Regulation V of 1832 assigned the Delhi territory to the jurisdiction of the Sale Board and Courts of Justice at Allahabad, directed that officials should conform to the spirit of the Regulations in the transaction of business, and empowered the Supreme Government to extend any part of the Regulations to that territory. It does not appear that any Regulations were ever so formally extended; but from this date they were practically in force throughout the territory. From that date, too, the Principal Assistant changed his title to that of Magistrate and Collector. In 1833 the Agra Sub-division of the Presidency was created into a Lieutenant-Governorship, under the name of the North-Western Provinces. In 1841 the Rohtak district was broken up, and paragona Gohana added to Panipat; but the alteration was shortly afterwards cancelled, and in 1847, just before the Mutiny, Subul Sonpat was transferred to Delhi. In 1858 the Delhi territory lying on the right bank of the Jammu was transferred from the North-Western Provinces to the Punjab by Government of India Order No. 6 of 9th February, and Act XXXVIII of 1858 repealed Regulation V of 1832, quoted above.

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71. As already noted, every few villages that were held in separate *jagirs* were often called a *pargana*, though the individual villages might be miles apart; and the same village was often quoted quite indifferently as being in one or other of two different *parganas*. In fact, there were two concurrent systems of *parganas*, one based upon locality, and the other upon the assignment of the land revenue. In 1803 *pargana* Karnal included 218 villages, and extended to Tiroli. Of these, 14 belonged to the Shingarch Sardar, 25 had long been held by Kunjpura, and 5 by Jindh. Of the remaining 174 villages we gave 7 to the Kunjpura Nawab for life, and 158 to the Mandala. Of these 158 villages many were mere hamlets, only 63 being separately assessed to Government revenue; and only 23 separate villages are now recognised. The remaining 9 villages, known as the nine *mautras* of Karnal, were wrongfully held by the Sikhs; they were resumed in 1816, and though lying to the north of Karnal, were included in the Panipat *pargana* till 1851. They are now in *pargana* Indri.

In the remainder of the present Karnal *pargana* and in the Panipat *tahsil*, the old division into *parganas* Panipat, Sunpat, and Ganaur was still followed in the *kanungo's* records. Some Jindh villages were added to Panipat in 1816, some Sunpat villages in 1822, and some Ganaur villages in 1836. The Bangar villages were generally known as *pargana* Panipat, and the Khadir villages indifferently as *pargana* Barsat or Channat up to 1830, from which date the two divisions were known as Panipat Bangar and Panipat Khadir. Besides these, we find in the earlier papers mention of *parganas* Jaurasi, Simbhalika, Faridpur, and Dalla, which were included in the above, and limits of which cannot be fixed. The boundary between the Khadir and Bangar *parganas* corresponded very nearly with that between the present assessment circles of the same names.

There was originally only one *tahsil* at Panipat; but in 1829, by which date the greater part of the *jagir* land had been resumed, a separate *tahsil* was formed at Barsat for the Khadir villages, the Mandal tract being excluded altogether. There was also a *tahsil* of Ganaur, and one of Sunpat. In 1829 the Khadir *tahsil* was transferred from Barsat to Panipat, the two being distinguished as Panipat Bangar and Khadir. In 1835-36 the boundary between Sunpat and Panipat took its present shape, when Ganaur was absorbed into Sunpat Khadir. In 1851, after the Settlement of the Mandal villages, the territory was divided, as at present, into Karnal and Panipat, with *tahsils* at Panipat and Gharaunda; and Ambipur and Kalwari, now in *pargana* Indri, were received from the Thanesar district in exchange for the nine *mautras* of Karnal which had been transferred to it. In 1851 the headquarters of the district were moved to Karnal; in 1862 *tahsil* Kaithal and *pargana* Indri were added to the district; and in 1868 the *tahsil* was moved from Gharaunda to Karnal.

Thanesar District.

72. The history of the rest of the district, which was in 1699, when we took the *Cis-Sallej* chiefs under our protection, parcelled out among various Sikh chiefs and confederacies, has been given

in Chapter II, B. Kaithal lapsed in 1843; Thanesar in 1832 and 1850, and Lalwa was ceded in 1816. In 1849 these were formed into a district of the Cis-Satlej States division of the Punjab, having its head-quarters at Thanesar. In 1862, after the transfer of the Delhi territory to the Punjab, the Thanesar district was broken up and distributed between the districts of Karnal and Ambala. The *parganas* of Gula, Pehowa, Kaithal, Indri, and part of Thanesar, fell to this district, the remainder to Ambala; at the same time the *Sunpat pargana* was transferred to Delhi. Six villages were transferred from Muzaffarnagar District to Karnal in 1862 owing to river changes.¹ In 1864 *tehsil* Gula was abolished and *pargana* Pehowa was transferred to the Ambala district; while Chika and Kularan were included in the Kaithal *tehsil*. In 1875 there were further included in the Kaithal *tehsil* 14 villages from the Pehowa *pargana*. Most of the other Pehowa villages have recently been transferred from Ambala to Karnal, while Bullada has been made over to Hissar.²

73. Below is a list of the officers who have held immediate charge of this district, omitting temporary appointments:—

Patnaut or Karnal District.

—	William Fraser	1824	R. H. Thomas
1819	T. T. Metcalfe	1825	Hugh Fraser
1822	Hugh Fraser	1830	Alexander Fraser
1824	George Campbell	1832	Simon Fraser
1834	John Lawrence	1841	Major W. R. Elliot
1836	Alexander Fraser	1843	Major Buck
1840	John Paton Gubbins	1863	Captain Parsons
1841	T. Woodcock	1870	R. W. Thomas
1842	John Lawrence	1873	Captain Harcourt
1843	John Paton Gubbins	1874	Colonel Bulbidge
1845	Charles Gubbins	1875	Colonel Hawes
1848	Nathaniel Prowett	1876	Colonel Millar
1854	C. R. Lindsay	1878	A. H. Denton
1856	J. P. Macwhinney	1882	Major A. S. Roberts
1857	C. B. Richardson	1883	A. W. Stogdon
1858	R. P. Jenkins	1884	Major A. S. Roberts
1859	C. P. Elliot	1886	J. R. Drummond

Thanesar District.

1843	Major Lawrence, C. B.	1856-67 to 1858-60
1844	Major Leach, U. R.	Id. Andrew Buck
1846	Major S. A. Abbott.	1859 to 1860 Id. S. W.
1846	G. Campbell	Alphinstone
1846	Major S. A. Abbott.	1860-61 Captain Andrew
1847-48 to 1849-50		Buck
G. Campbell		1861-62 Major E. F.
1850-51 to 1855-56		Graham and Id. Voyte.
Captain W. H. Lockins		

Many of these names are household words with the villagers, and are quoted daily in the course of business. The following is a glossary which will be found useful:—*Friden* is Fraser; *Bera*

(1) Two more have since been transferred.

(2) P. G. Notifications Nos. 715 and 716 of 25th December 1884.

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Thanesar District.

District officers.

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History.

Military affairs.

Frederick Sahib is William Fraser. *Hu Sahib* is Hugh Fraser. *Alah Jalandhar Sahib* is Alexander Fraser, but is also used for Alexander Skinner. *Jas Patte Sahib* is John Paton Gubbins. *Chulia Sahib* is Charles Gubbins. *Joras Sahib* is George Ross, who settled the Mandal pargana in 1852-53. Captain Larkins is the last member of the Thanesar Deputy Commissioners.

Early administra-
tion.

74. The early administration of the Delhi territory before the introduction of the regulation law presents so many curious points of contrast with that of our own day, that it will be interesting to give a brief sketch of its most salient features, more especially as in this district alone has the mothly left untouched the records which described it. The early administration of land revenue is fully discussed in Chapter V. The cantonment of Karnal, which was not moved to Ambala till 1842-43, was for a long time, with the exception of a small military outpost at Ludhiana, our frontier station. Its size may be judged of from the fact that the *monthly* pay of the troops amounted, in 1835, to a lakh-and-a-quarter of rupees. This pay was by no means always forthcoming; the Collector often had to borrow at exorbitant rates from the local money-lenders in order to meet urgent demands for arrears of several months' standing; and as late as 1840 we find the bills dishonoured for want of funds, and troops actually marching on service with some months' pay owing to them.

Criminal administra-
tion.

75. The tract was surrounded for the greater part of its border by "the turbulent and marauding Sikhs" of Jindh Kuthal, Ludwa, and Shungarh; their territories reaching to within a mile of the cantonment boundaries. Raids and affrays and wholesale raids, in which cattle were carried off by fifties and hundreds at once, were of constant occurrence. The Sikh chiefs exercising sovereign powers had exclusive jurisdiction over their own subjects even for offences committed in British territory; until in 1833 this state of things grew so intolerable that we assumed criminal and police jurisdiction in Ludwa and Shungarh. The jagirdars, whose villages were thickly sprinkled over the tract, gave almost as much trouble as our Sikh neighbours, combining by force of arms the execution of writs, and harassing the authorities in every possible way. The Mandals were more than once threatened with expulsion from Karnal if they did not become more amenable to authority; and their jagir was actually attached in 1850 on account of their contumacious conduct. The whole of the Namak, and, till the re-opening of the canal extended cultivation, the whole of the Bangar right up to the main road from Delhi, was covered with thick *dhok* jungle which harboured bands of robbers; and criminals always found a ready refuge with our Sikh friends, from under whose wings they had to be reclaimed through the Resident at Delhi and the Superintendent

of Sikh affairs at Ludhiana, till the appointment of enkils in 1822 supplanted the procedure. The Rappats of the Nardak were notorious for their turbulence. *Sekhar* cases were tried at Delhi; and the bodies of criminals executed were left hanging on the gibbets till 1833, when the practice was discontinued. Flogging was abolished in 1825. The track law was rigorously enforced, the villages to which the thieves were traced, or even that in which the robbery took place if connivance was suspected, being made responsible for the full value of the stolen property; and though this practice was discontinued on the introduction of the Regulations in 1829, yet the Court of Directors expressly ordered its revival on the ground of the number of foudlatory chiefs whose territories bordered on the tract. The police establishment was notoriously corrupt. In 1820 there were only 3,082 prisoners tried in the whole Delhi territory, of which number 2,302 were acquitted or discharged. During the five years from 1829 to 1832 the average number of cases brought into court, excluding assaults, was only 623 for the whole Panipat district. In 1879 the corresponding number for a very little larger population was 1,750. The police duties in large towns were discharged by watchmen, while in villages the people themselves were responsible for them, and for the *jagir* holdings the police were furnished by the *jagirdars* themselves. There were no head-quarters to the district till 1827, and the Magistrate was always tooting about and carrying his jail with him, the prisoners sleeping in the open under nothing but a guard. The roads were said to be impassable for man or horse in the rains generally, and near the canal or river at all seasons; while at the best of times reports took four days to traverse the greatest length of the district. There was no road-tax, and such repairs as were made were done by prisoners. The rum-cess was not imposed till 1842, and the Grand Trunk Road was not made till 1847.

70. Civil suits were tried solely by the *Sadr Amin* at Panipat, who, after eight years of service, was discovered to refuse on principle to admit the evidence of a Hindu against a Muhammadan, though he admitted that of the latter against the former, and who justified his practice by reference to the Muhammadan law, by which he considered himself bound. The language of the courts was Persian up till 1806, no suits against Government were admitted in the courts of the Delhi territory, and no stamps were taken on petitions till, in 1830, Regulation X of 1829 was extended to the courts by proclamation. Sale of land was not permitted without the consent of the whole village, save with the express sanction of the Governor-General in Council.

Government coins were not current in the district, the copper coins being "received with reluctance"; while the reason given for moving the *cash* from Barnal to Panipat in 1829 was, that the larger town afforded greater facilities to the people for exchanging the current coins in which they were paid for their crops for the

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Government rupees in which alone the revenue could be paid. In 1833 the Government, "in order to afford revenue-payers relief" from the arbitrary exactions to which they were subject at the "hands of money-changers in paying revenue," fixed rates of discount at which the holders of country rupees then current would be received in payment of revenue, in the conviction that "the measure would greatly benefit the agricultural classes." Education had "steadily deteriorated since the introduction of our rule;" and in 1840, of the 12 schools, nominally existing in the whole tract, those of Karnal, Gharomda, Dhansuli, and Nautlia were the only ones attended by more than two or three children. These were all supported by private enterprise, and were all bad alike. There were no dispensaries in the district till 1843, when it was proposed to establish them on account of the terrible epidemics.

Customs and Excise.

77. Every petty chief in the neighbourhood levied innumerable transit dues on the traffic through his territory. This pernicious system was adopted by us also, even to the extent of allowing every little *jagirdar* to levy these dues in his own villages. The customs line, established under the regulations on the left bank of the Jamna, lay wholly to the east of the territory; and the result was that "a vast multitude of custom-house officers were scattered throughout over the country, making collections in every town, and apparently in every considerable village, on almost every article of traffic." Payment of these dues did not exempt the goods from duty at the regular customs line; so that goods passing across the Jamna into the regulation provinces had to pay double duty. In 1823 the whole customs machinery west of the Jamna was abolished, and posts were retained only at the forries, which were about three miles apart. At the same time the dues were assimilated to those leviable under Regulation IX of 1810, and one payment freed goods for all British territory. But this change involved the relinquishment of the customs revenue upon the whole of the trade between the Rajpootana and the Sikh territory—a revenue which averaged some five *lacks* annually. Accordingly, in 1825, a second customs line was established on the Western Jamna Canal. But the posts on both lines were in charge of *indarries* on Rs. 7 a month; and the amount of embezzlement was immeasurably great. Smuggling, too, was practised to such an extent that in 1833 it was estimated that not one-sixth of the salt passing through the district had paid duty. In 1834 the "irritating and expensating interference with trade" practised by the customs officials was seriously commented upon, and all petty traffic was wholly exempted. And when the neighbouring Sikh territory became ours in 1843, the customs line was finally removed from the vicinity of Karnal. Such chiefs, however, as remained independent, continued to levy their own dues until we deprived them of their powers after the Sikh war, when the Nawab of Kanjura was compensated for the loss of his customs revenue by a yearly payment from the Treasury.

Besides Imperial customs, octroi was levied in Karnal and Panipat at ad valorem rates varying from 5 to 10 per cent. upon all grains, pulses, sugar, oil, oil-seeds, *ghī*, tobacco, strawed, charcoal, salt, and spices within three miles of the town; and these dues formed a part of the Imperial revenue till 1828, when grain of all sorts was exempted, and the revenue was devoted to local improvements under the management of a municipal committee. The annual net revenue thus realised in Panipat averaged some Rs. 8,000. The present octroi revenue of that town is about Rs. 20,000. A further tax of 4 per cent. on the value of all houses or land sold or mortgaged within the walls of Panipat and Karnal was levied till 1823, when this and a host of other arbitrary exactions, of which no detail is forthcoming, were finally abolished.

Chapter II, C.

Administrative
History.

Customs and Excise.

CHAPTER III.

THE PEOPLE.

SECTION A—STATISTICAL.¹

Chapter III. A.

Statistical.

Distribution of population.

76. Table No. V gives separate statistics for each taluk and for the whole district, of the distribution of population over towns and villages, over area, and among houses and families; while the number of houses in each town is shown in Table No. XI(H). The statistics for the district, as a whole, give the following figures, and further information will be found in Chapter II of the Census Report of 1881:—

Percentage of total population who live in villages	Persons	85.42
	Males	86.15
	Females	84.72
Average rural population per village		6.7
Average total population per village and town		121
Number of villages per 100 square miles		54
Average distance from village to village, in miles		1.79
Density of population per square mile of—	Total area	Total population
		Rural population
	Cultivated area	Total population
		Rural population
Number of resident families per occupied house		
Number of persons per occupied house		
Number of persons per resident family...		

Density of population.

77. The following statement shows the density of population on total and cultivated areas:—²

1	2	3	4	5	6
Taluk.	Total area in square miles.	Total population.	Number of persons to the square mile.	Number of persons to the square mile of cultivation.	Number of persons to the square mile of habitation.
Karnal	832	251,504	302	822	682
Paipat	424	165,783	393	849	726
Kaithal (corrected)...	1,239	227,302	183	279	200
Total	2,579	644,589	250	1,154	580

(1) The figures in Chapter III, except where the contrary is noted, relate to the district as constituted in 1884, when the first edition of the Gazetteer was published. The insertion of "corrected" in brackets above Kaithal indicates that the figures given for that taluk relate to the taluk as now constituted, the figures for area being taken from the returns of the recent settlement. The Kaithal villages transferred in 1885 from Kaithal to the Hissar District had in 1881 a population of 11,221 souls. The Pakana village transferred from the Ambala District to Kaithal in 1879 had in 1881 a population of 24,219 souls.

(2) In column 5 the cultivated area referred to is taken from Statement III appended to the Revenue Report of 1880-81 in the case of Paipat and Karnal, and from the Settlement returns in the case of Kaithal.

The density of population is 250 per square mile on the total area, and 457 on the cultivated area for the whole district. The density is greatest in Panipat, viz., 408 and 750, and we might expect, seeing that half of the *tahsil* in Khair, where scarcely any land is uncultivated, and that the rest of the *tahsil* is irrigated by the canal and abundantly supplied with wells. The rain-fall is also little short of that for Karnal. The Karnal *tahsil* comes next with 378 and 689. The Khair of Karnal is similar to that of Panipat; the rain-fall is slightly larger, a much smaller area is under canal irrigation, but the chief cause of the difference, as compared with Panipat, is that of the tract called the *Nardak*, which includes nearly half of the *tahsil*. It is waste land, and the remainder is badly provided with wells and badly cultivated by the population, chiefly Rajputs. There is also a considerable population of Sainis and Gujars who are bad cultivators. Elsewhere throughout the district the industrious Jats, Rors, Rains, and the like are well mixed up with the less industrious Rajputs, Gujars, Rishnams, &c. Karnal comes last with the 176 and 399 for the total and cultivated areas respectively. The rain-fall is only 15 in. here; there is only canal irrigation in 13 villages, well irrigation is impossible throughout one-half of the *tahsil*, and the dry crops are very precarious.

80. In the district report on the census of 1961 the Deputy Commissioner writes:—

Distribution over houses and families.

"I believe the general custom both among Hindus and Mohammedans is for several families, the heads of which are brothers, to live together as long as their father is alive, and to separate at his death. Of course, the rule is subject to very many exceptions, but the cases of such families being united are much more numerous than those of separation. The separation is of course effected in the most convenient way. The building occupied by the household will be divided, if that be easily possible, or an addition or addition may be made in the next enclosure, or may have been made from time to time during the father's life-time, if such with these families separated before their father's death. Thus we may come to find 4 or 5 brothers with their families living in separate buildings in the same enclosure. Some of these may become vacant in course of time owing to the contingencies of life, and relations may be allowed to occupy them, or they may be let to persons of an entirely different caste. The practice has thus grown up of different families, having little or nothing in common, living together in houses arranged generally in quadrangular form round a common court. It has the advantage of providing in a very economical way some free space off the street which can be used by a number of families without much inconvenience, and the members of the different families are in a position to render each other protection. It is also quite common, at any rate in the towns, for a man who has some spare capital to invest it in house property by building a number of houses round a quadrangle, merely with a view to letting them."

Migrations and birth-place of population.

81. Table No. VI shows the principal districts and States with which the district has exchanged population, the number of migrants in each direction, and the distribution of immigrants by

Chapter III. A. Statistical.

Migration and birth-
place of population.

tribe. Further details will be found in Table No. XI and in supplementary Tables C to H of the Census Report for 1881;

while the whole subject is discussed at length in Part II of Chapter III of the same report. The total gain and loss to the district by migration is shown in the margin. The total number of residents born out of the district is 98,186, of whom 54,439 are males and 43,697 females. The number of people born in the district and living in other parts of the Punjab is 87,243, of whom 53,273 are males and 33,970 females. The figures below show the general distribution of the population by birth-place:—

Born in	PROPORTION PER HILL OF RESIDENT POPULATION.								
	Rural population.			Urban population.			Total population.		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
The district	507	779	543	833	712	803	699	779	812
The provinces	871	947	961	810	901	906	994	213	341
India	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The following remarks on the migration to and from Karnal are taken from the Census Report:—

"Here again the migration is largely reciprocal, while the attraction exercised by the riverain and canal tracts has caused the immigration largely to exceed the emigration, both being almost wholly confined to tracts which march with the district, and immigration being most in excess from those districts which have the smallest common frontier. The percentage of males is always larger among emigrants than among immigrants, which seems to point to the immigration being more largely of the permanent type than is the emigration. The extensive emigration into Rohtak and the Native States is largely due to the havoc caused by saline effluence in parts of the canal tract."

INCREASE AND DE-
CREASE OF POPULATION.

82. The figures in the statement below show the population of the district as it stood at the three enumerations of 1853, 1868 and 1881. The first of these was taken in 1853 for so much of the district as then formed a portion of the North-Western Provinces (see Chapter II, Section C), and in 1853 for the remainder of the district, which was under the Punjab Government:—

		Census.	Persons.	Males.	Females.	Density per square mile.	Statistical. Increase and de- crease of population.
Actual.	1853	...	...	...	...	231	
	1868	...	617,377*	324,632	292,742	280	
	1881	...	622,621	326,171	296,450	260	
Per- centage.	1868 on 1853	...	...	...	...	113	
	1881 on 1868	...	100%	100%	101%	100	

Unfortunately the boundaries of the district have changed so much since the Census of 1853 that it is impossible to compare the figures; but the density of population as then ascertained probably did not differ much over the two areas. It will be seen that the annual increase of population per 10,000 since 1868 has been 3 for males, 9 for females and 6 for persons, at which rate the male population would be doubled in 1,943.6 years, the female in 800.4 years, and the total population in 1,212.2 years. Supposing the same rate of increase to hold good for the next ten years, the population for each year would be in hundreds—

Year.	Persons	Males	Females	Year.	Persons	Males	Females
1881	622.6	326.2	296.5	1897	624.8	328.9	295.9
1882	623.0	326.5	296.5	1898	625.1	327.8	297.3
1883	623.3	326.8	296.5	1899	625.4	327.1	298.3
1884	623.7	327.2	296.5	1900	625.8	327.3	298.5
1885	624.1	327.6	296.5	1891	626.2	327.6	298.6
1886	624.5	328.0	296.5				

Nor is it impossible that the rate of increase will be sustained or even become greater in the future. Part, indeed, of the increase is probably due to increased accuracy of enumeration at each successive enumeration, a good test of which is afforded by the percentages of males to persons, which was 55.00 in 1853, 54.15 in 1868, and 53.99 in 1881. Part again is due to gain by migration, as already shown at page 57. The excavation of the Sirsa Canal will render a considerable expansion of population possible in the S. of Karnal.

The urban population since 1868 has not increased like the rural population, the numbers living in 1881 for every 100 living in 1868 being 92 for urban and 101 for total population. This is probably due to the abolition of the shal at Karnal and to the un-

* According to present calculations of the district the figures in column 3 should be for 1868 641,000, and for 1881 645,519, the incidence per square mile in both years being 250.

Chapter III. A
Statistical.

Increase and decrease of population.

healthiness of the towns of Panipat and Karnal. The population of individual towns at the respective enumerations are shown under their several headings in Chapter VI.

The fluctuations of population by *talukhs* is shown below:—

Talukh	1868.	1881.	Percentage of population of 1881 on that of 1868.
Karnal	200,322	221,261	96
Panipat	184,100	186,798	102
Kashal (mercantile)	219,241	237,332	108
Total	603,663	645,391	107

The growth of population between 1868 and 1881 was therefore quite insignificant.

Further details can be given regarding the part of the district, 4/13 of the whole as far as area is concerned, which down to 1868 formed part of the Thanesar District. The figures given below are taken from returns prepared at the recent settlement:—

Talukh	Assessment Circle.	1868					
		1867		1871		1881	
		Number.	Percentage of population of 1867 on that of 1868.	Number.	Percentage of population of 1871 on that of 1868.	Number.	Percentage of population of 1881 on that of 1868.
INDIA PARSANA	Khadir	40,808	107	64,208	160	51,612	126
	Dangar	39,460	104	44,417	113	54,021	137
	Nardak	21,022	111	25,810	123	23,401	111
Total		101,290	107	134,435	127	129,034	127

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Increase and decrease of population.

Tribes.	Assessment Circles.	Census.					
		1855.		1868.		1881.	
		Number.	Per square mile of cultivation.	Number.	Percentage of in- crease of 1868 on that of 1855.	Number.	Percentage of 1881 population of 1855 on that of 1855.
Karnal Taluk.	Powah.	11,464	448	11,813	110	15,231	110
	Andarwar.	10,948	716	11,740	107	11,301	104
	Naill, including 8 villages of southern Ghazal in Ghazal.	24,523	627	20,444	101	22,122	98
	Southern up- lands, including Kathal, Nardak and Bangar and Belawan Bangar.	169,179	217	192,542	122	141,939	122
	Total.	191,774	281	203,564	115	187,333	112

The increase of population between 1855 and 1881 in Indri shown on page 70 is not real. The figures of the first census do not include the population of 7 estates received by transfer from Muraharwar and of 8 villages which formerly belonged to the Panchayat Indri. Allowing for this the number declined by 1½ per cent. between 1855 and 1881. The population of Indri is as large as the pargana with its present resources can well support. The tract is on the whole an unprosperous one and in years of heavy rainfall the mortality from fever is very great. In Kathal the Powah and Andarwar circles are healthy. But they are fully cultivated and fully populated, and little further expansion is to be expected or desired. In the unhealthy Naill population has declined. In the healthy southern uplands, where there was abundant room in 1855 for extension of cultivation, population has increased with great rapidity, but the growth of the cultivated area has been far more rapid. Excluding this tract the population of the whole district shows a falling off of nearly 2 per cent. between 1868 and 1881.

Immediately after the Census of 1868 had been taken, the district was visited by a severe famine.* It was reported at

* See para. 32.

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Statistical.

Increase and decrease of population.

the time that no deaths had occurred from starvation; but the decrease in the number of cattle, the necessary impoverishment of the people, and the injury to health from deficient food, no doubt had an important effect both in sterilizing the population and in keeping down the cultivated area.

A similar calamity, somewhat less severe, occurred in 1877-78.* In 411 out of 927 villages in which revenue had to be suspended, inquiries showed that 82,250 head of cattle, many of them plough bullocks, perished; and the loss was only somewhat less severe elsewhere. There was no mortality from starvation, and the mortality generally was, probably, less than usual in those years of drought and scarcity; but owing to the poor diet and hardships suffered, the people fell a prey in large numbers to a fever epidemic in the end of 1879. It cannot be doubted that all this must have had an important effect in keeping down the population and the cultivated area.

Owing to the faulty alignment of the old Western Jamma Canal and the wasteful system of irrigation pursued by the people large tracts became waterlogged. The insanitary conditions thus produced led to widespread disease and sterility in the canal tracts of Panipat and Karnal, and the floods of the Sarauti, Ghaggar, and Umla have caused the same evils in the Kanthal Naili. But Karnal and Panipat are already fully populated, and the result of the improvements in drainage now being carried out by the Canal Department will probably be more apparent in an improvement in the physique of the people than in an increase in their numbers.

Births and deaths.

83. Table No. XI shows the total number of births and deaths registered in the district for the twelve years from 1877 to 1888, and the births for the nine years, 1880 to 1888. The distribution of the total deaths and of the deaths from fever for those twelve years over the twelve months of the year is shown in Tables Nos. XIA and XIB. The annual birth-rates per mille, calculated on the population of 1881, are as shown in

Total.		Average of	
		1880-88.	1877-88.
Males	..	21.5	21.6
Females	..	19.2	19
Persons	..	20.7	20.6

the margin.

The figures below show the annual death-rates per mille between 1868 and 1878 calculated on the population of 1868:—

Detail.	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	Average.
Males	..	14	23	28	24	23	19	21	22	22	44	24
Females	..	11	20	22	19	21	17	19	20	20	32	21
Persons	..	13	22	24	21	22	18	20	21	21	44	22.5

The table below gives the corresponding figures for the ten years ending with 1888 calculated on the population of 1881.

* See para. 85.

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Statistical.

Increase and decrease of population.

Detail.	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	Average.
Males	39	39	38	35	36	34	33	34	31	35	41
Females	37	36	31	31	22	35	34	34	32	34	40
Persons	76	75	69	66	58	69	68	68	63	69	81

The figures for the period 1868-1878 are no doubt very imperfect. Comparing the statistics of births between 1880 and 1888 with those for deaths between 1879 and 1888 we find that the average death rate is almost exactly the same as average birth-rate. This is due to the large number of deaths from fever which occur year by year. The only other districts in the province which suffer so severely from this cause are Dehli and Gurgaon. Virulent outbreaks of fever due to excessive autumnal rains in 1879, 1884, and 1887, account for the extraordinary mortality of those years. The only remedy is drainage of the waterlogged tracts. This is now being carried out as regards the part of the district watered by the Western Jamna Canal, but as yet nothing has been done for the tract flooded by the Umla, Ghagar, and Sarauti, where disease is equally rife.

The registration is still imperfect, though it is probably improving. The historical retrospect which forms the first part of Chapter III of the Census Report of 1881, and especially the annual chronicle from 1840 to 1881, which will be found at page 50 of that report, throw some light on the fluctuations. Such further details as to birth and death-rates in individual towns as are available will be found in Table No. XLIV, and under the headings of the several towns in Chapter VI.

81. The figures for age, sex, and civil condition are given in great detail in Tables Nos. IV to VII of the Census Report of 1881, while the numbers of the sexes for each religion will be found in Table No. VII appended to the present work. The age statistics must be taken subject to limitations, which will be found fully discussed in Chapter VII of the Census Report. Their value rapidly diminishes as the numbers dealt with become smaller; and it is unnecessary here to give actual figures, or any statistics for *talukhs*. The following figures show the distribution by age of every 10,000 of the population according to the Census figures—

Age, sex, and civil condition.

	0-1	1-2	2-3	3-4	4-5	5-6	6-10	10-15	15-20
Persons	221	150	120	229	261	1,114	1,290	1,160	200
Males	207	142	113	213	254	1,061	1,205	1,220	1,410
Females	250	160	127	240	273	1,472	1,264	1,072	220

	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	over 60
Persons	700	932	867	440	710	227	312	140	400
Males	667	931	813	173	664	211	602	120	240
Females	1,402	922	864	166	700	310	629	120	320

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Statistical.

Age, sex, and civil
condition.

The number of males among every 10,000 of both sexes is shown below. The decrease at each successive enumeration is almost certainly due to greater accuracy of enumeration:—

Population.		Villages.	Towns.	Total.
All religious	1865	...	...	5,500
	1881	...	...	5,415
	1891	5,441	5,107	5,309
	1891	5,461	5,191	5,437
	1891	5,419	...	5,403
Hindus	1891	5,472	4,931	5,447
Muslimans	1891	5,460	5,007	5,291

Year of life.		All religious	Hindus	Muslimans
0-1	...	948	950	948
1-5	...	984	943	1,019
5-10	...	925	917	950
10-15	...	901	...	...
15-20	...	907	...	...

In the Census of 1881, the number of females per 1,000 males in the earlier years of life was found to be as shown in the margin.

The figures for civil condition are given in Table No. X, which shows the actual number of single, married, and widowed for each sex in each religion, and also the distribution by civil condition of the total number of each sex in each age-period.

Proportions between
the sexes.

86. The Deputy Commissioner (Mr. Benton) wrote as follows in his Census Report for the district:—

"Both Hindus and Muhamamadians show a more even proportion of males to females everywhere in the towns than in the villages, and the Muhamamadians everywhere both in towns and in villages show a larger female population than the Hindus. The Sikhs are in considerable numbers in the villages of Karnal and Katthal, and there the proportions between the sexes show no marked differences from those of the Hindus. Statements so general in their character with regard to the numbers of the Hindu and Muhamamadian religions and Sikh religion, wherever they are in sufficient numbers to justify remarks, cannot be the result of accident, and neither can it be accident that the proportions for the last Census should so nearly correspond to those of this.

"In addition to the authorities cited on the disproportion of the sexes by Mr. Plowden in the North-Western Provinces Census Report, the only authority with which I am acquainted is 'Darwin on the Descent of Man, pages 242 to 260, Ed. 1874.

"With regard to disparity between the ages of the males and the females, if it be an effective cause, it no doubt exists. By working out the average ages of males and females, by taking the ages of all included within any period in the returns as if the middle of the period were their proper age, and with regard to those over 60, taking them all as 65 years of age, I find the average age for married males 33.43, and that for females 29.00.

For Hindus these averages are 33·54 and 28·67, while for Muhammadans they are 35·6 and 24·50, the difference being 8·34 or equivalent 4·67 for Hindus. This is an altogether unexpected result, it being generally supposed that as cohabitation is postponed for 4 or 5 years longer in the case of Muhammadans, the ages of the husband and wife were more nearly equal than in the case of Hindus. Seeing a state of equality between the sexes more nearly obtained among the Muhammadans than among the Hindus, this would appear to indicate that if disparity of ages be an effective cause there must be some other force in operation which depresses the Hindu proportion of females to males in towns and villages, and yet allows the Muhammadans with greater disparity of ages to have a much more equal proportion everywhere. Infanticide or ill-treatment of females practised at the present time, with a hereditary tendency developed by their practice in bygone times, would serve to explain the results. Muhammadans, having all of them a good deal of Hindu blood in their veins, if not wholly Hindus, would not escape the taint of these vices or of their accumulated effects if they be not now practised; but the results would be very much diminished, and great disparity between different castes, which intermarry only amongst themselves and preserve their own habits and usages, would be matter of no astonishment."

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Statistical.

Proportions between the sexes.

86. "With regard to a hereditary tendency to produce males, I consider that the conditions necessary to establish it are still in existence to some extent. There is no doubt that infanticide, if not general, still exists. We have a police post established at Keonak* for its prevention, and there are good reasons for suspecting those more villages to be guilty of the practice. The persistent difference between towns and villages, although the towns are to a large extent inhabited by an agricultural population in no respect different from that of the villages, the more favourable proportion for Muhammadans generally, even with disparity of years against them, especially when compared with those of the same caste who are still Hindus, lead to the conclusion that infanticide still prevails among the agricultural population to a much larger extent than could have been imagined. There are strong motives for getting rid of a superabundant family of daughters. Although in most castes a price can be got for a bride, still, where the price is highest, the upbringing of daughters must be a considerable loss, looking at the matter as one of pure profit and loss; and to men of respectability, who wish to marry their daughters in accordance with the prevailing customs, a large family of daughters is universally declared to be a ruinous misfortune.

Infanticide.

87. "It is admitted on all hands that there is a difference between the treatment of male and female children, but it is not admitted that this difference is of a character to cause the destruction of the latter. The total effect, however, of a prevailing feeling more favourable to males than females may not be incon-

Treatment of female children.

* Matters have probably improved at Keonak, which is a large Gujar village. A census of male and female children, recently taken unexpectedly by the Deputy Commissioner, did not disclose any suspicious disparity in the proportions of the sexes. The late Deputy Commissioner, Mr. Innes-Smith, suspected that infanticide was practised in the Rajput estate of Chawal, and I have heard it asserted that it exists in the great Jai-village of Chawal.—J.H.B.

Chapter III, A.

Statistical.

Polygamy and
polygamy.

considerable even if it does not go the length of criminality. It is, however, sufficient for the purpose of establishing a hereditary male-producing tendency if female infanticide prevailed in later ages, and of this I suppose there is no doubt whatever.

83. "We know of course that there is no polygamy * here, and that polygamy does prevail to a very slight extent. This is not the conclusion, however, that we should arrive at from the returns. From them we learn that there are in the district 2,674 more married males than married females, although we should have had a slight excess of females to be accounted for by polygamy. I am somewhat at a loss for an explanation of this result. I believe it may be due to the fact that we had a native regiment passing through, which contained 698 males, many of whom may have been married; and that there may be a good many domestic servants, Police and others residing in the district who have their wives elsewhere. The people of the district are of a stay-at-home character, and do not like going on service elsewhere. I was impressed by this feature while trying to get men for service with the troops during the war in Afghanistan. Consequently the deficiency of married females, due to residents of other districts being temporarily settled here, would not be compensated by natives of this district temporarily residing elsewhere, and leaving their wives behind them. I observe that there is a larger percentage of married females in the towns of Panipat and Kailthal than anywhere else. A good many people in both these towns are educated and employed on service elsewhere. They may have left their wives behind them; this is the probable explanation.

Widows and widows.
etc.

89. "The percentage of widows to the whole of the females is in each case considerably larger in the towns than in the villages, and the number of widows varies from about a half to something short of a third of the number of widows in different places. These differences are to be explained by the restrictions on widow marriage. Banias, Brahmins, and other high castes who forbid widow marriage prevail in the towns and keep up the percentage of widows. The Rajputs also forbid widow marriage and they keep up the percentage wherever they prevail. There are very few in the villages of Panipat taluk, and there the number of widows is smallest, viz., 15.51 per cent.; Kailthal, where they are not very numerous, follows with 16.71; and Karnal villages, where they are very numerous, is highest with 17.99. The percentages in Panipat, Kailthal, and Karnal towns are 17.58, 16.74 and 22.79 respectively. The small percentage of widows in Panipat villages partly accounts for a larger percentage of married males and females than anywhere else.

Summary.

90. "To sum up, the Saragias marry earlier than the members of any other religion. The Hindus come after them in this respect, then the Muhammadans, and the Sikhs marry latest of all. Notwithstanding we find that the average disparity of ages between husband and wife, which is about 4½ years for Hindus, is nearly a year more for Muhammadans. Although polygamy exists to a small extent, there is found to be an excess

* Possibly an exception must be made in the case of some of the outlying Peshawar villages near the Ludhiana district.—J.M.D.

of married men over married women, which is attributable to the stay-at-home character of the population, which prevents married men going on service elsewhere leaving their wives behind; while males from other districts come here without their wives. Disparities are observed in different localities as to the percentage of widows and widowers, which depend on the usages of the population in those places as to the marriage of widows. The usual disproportion between the sexes is observed. The males are in the proportion of 55.95 to 44.01 females. The disproportion is larger in the towns than in the villages, and larger among the Muhammadans as a whole than among the Hindus. The Hindu agricultural population shows most unfavourably. With a few trivial exceptions, the high caste Muhammadans show best, and the Shudras caste is on an equality with them. The disproportion may be due partly to climate and partly to disparity of ages between the sexes, but these cannot be the only causes, as the disparity is less in the case of Muhammadans who show a larger proportion of males, and these causes do not account for the differences shown by different castes. It is necessary to postulate some other cause. An inherited tendency to produce males caused by female infanticide practised in the past, if not also in the present, and by female ill-treatment still prevailing, would satisfactorily account for all the phenomena."

Infirmities.	Males.	Females.
Insane ..	3	2
Blind ..	67	91
Deaf and dumb ..	2	2
Lepers ..	6	..

91. Table No. XII shows the number of insane, blind, deaf-mutes, and lepers in the district in each religion. The proportions per 10,000 of either sex for each of these infirmities are shown in the margin. Tables Nos. XIV to XVII of the Census Report for 1881 give further details of the age and religion of the infirm.

92. The figures given below show the composition of the Christian population, and the respective numbers who returned their birth place and their language as European. They are taken from tables Nos. IIIA, IX and XI of the Census Report for 1881—

Details.		Males.	Females.	Persons.
Name of Christian population.	Europeans and Americans ..	20	15	35
	Muslimans ..	..	1	1
	Native Christians ..	24	24	48
	Total Christians ..	44	41	85
Language.	English ..	21	17	38
	Other European languages ..	..	..	..
	Total European languages ..	21	17	38
Birth-place.	British Isles ..	12	6	18
	Other European countries ..	..	..	..
	Total European countries ..	12	6	18

Chapter III. A.

Statistical.

Summary.

Infirmities.

European and Eurasian population.

Chapter III. B.

Social Life.

European and Eurasian population.

But the figures for the mass of Christians, which are discussed in Part VII of Chapter IV of the Census Report, are very untrustworthy, and it is certain that many who were really Eurasians returned themselves as Europeans.

SECTION B.—SOCIAL LIFE.

The homestead and the houses.

93.* When a new village is founded, the first thing done is to dig out tanks to hold rain-water for the cattle, washing, &c. The village is then built on the spot; and, as in course of time old houses fall down and new ones are built, the village is raised high above the surrounding plain: in some of the old Nardak villages as much as 150 or 200 feet. The space immediately around the village is called *gura*; and here the cattle stand to be milked, weavers train their warp, fuel is stacked, dung-hills made, ropes twisted, sugar presses erected, and all the operations conducted for which free space is necessary. The village is generally surrounded by a mud-wall and ditch as a protection against thieves, and is entered by gates, often of brick, and containing side-rooms in which the gossip sits when it grows hot under the huge *bar tree* or *fig* which generally stands just outside. Main streets (*gali*) run right through from one gate to another; and in Rajput and other villages where the women are strictly secluded, numerous blind alleys (*bagar*) lead from them, each being occupied by the houses of near relations. In other villages the alleys run right through. The proprietors, Banias, and Brahmans, live in the centre; the menials on the outskirts of the village. The houses are usually of adobe, except in the Nardak and Naili circles and in the older villages where brick is common; the change bearing patent evidence to the tranquillity which we have substituted for anarchy. At two or three commanding positions are common houses (*pana*, *chopal*, and in *Kaithal chopar*, *lathal*) belonging to the wards of the village. In *Kaithal* these buildings are often imposing structures. There will also be a few *hathals* or sheds for gossiping in, and many cattle pens scattered about the village.

Entering the street door of a private house you pass into the outer room or *dahla*, beyond which you must not go without permission, and where your friend will come and talk. It is often partly occupied by some calves. Beyond this is the yard (*chaul* or *agan*), separated from the streets by a wall, and in which the cattle are tied up in cattle sheds (*bara*), and the women sit and spin. Round this are the houses occupied by the various households of the family. In front of each is a room with the side towards the yard open (*dalan* or *tanam*) which is the family living-room. On either side of this will be a *sidari* or store-room and a *chakra* or cooking place, which is kept scrupulously clean, with its *chhula* or hearth, but sometimes part of the *chhuk* is roofed in, and the cooking is then done there in the hot weather;

* Pages 93 to 95 are taken from Mr. Tolstoy's Settlement Report. I have made a few alterations in the text and added some notes.—J.M.D.

there is often an inner room beyond called *chri* or *dohari* if with two doors, and *kota* or *kotei* if with one only. Upstairs is the *chambra*, where the husband and wife sleep; while the girls and children sleep downstairs, and the boys in the *chopal*, the *dahli*, or the *cattlesheds*.¹

There will be some receptacles for grain (*kothi* or *chaurain*)² made of rings of adobe built up into a cylinder. This has a small hole in the bottom, out of which the grain runs, and keeps always full a small receptacle (*aina*) open in front, from which it is taken as wanted. There will be some ovens (*bharala*, *hara*) for warming milk; there will be recesses in the wall to act as shelves (*poridi*);³ one or two swinging trays or rope rings for water vessels; some nets (*jeli*) for carrying *bhura*; a few bedsteads (*manja*, *bhat*) made of wooden frames covered with netted string; a few small stools (*pira*, *pida*, *khatala*) of identical construction; a few small low wooden tables (*patra*); and some large baskets to store clothes in (*pitara*). There will be some small shallow baskets (*dalsi*) for bread and grain; and some narrow-mouthed ones (*lojri*) to keep small articles in. One should be able to tell the number of married women in the house by the number of handmills (*chakki*).

The Hindu's utensils are made of brass, and perhaps a few of half-metal (*tanari*); the Muhammadan substitutes copper for brass, which he does not use.

The earthen vessels used by Hindus are usually ornamented with black stripes (*khitan*); but Mussalmans will not eat from vessels so marked, because the *ghari* full of water given to a Brahman (*manana*) on *Ekdeshi* after religious ceremonies by Hindus must be striped, and therefore the markings are supposed to be specially Hindu. Of course the metal vessels are expensive; but the remaining furniture of an ordinary village home costs very little. The string of the bedsteads is made at home; while the carpenter makes the furniture, and the potter supplies the earthen vessels as part of their service.

24. The day of twenty-four hours is divided into eight *pahra* or watches, four of day counting from dawn, and four of night. Each *pahra* is divided into eight *gharis*. The dawn is called *piti-phati*, the early morning *tarka*, the evening *sanj*. The daily life of the ordinary able-bodied villager is one of almost unremitting toil. He rises before dawn, eats a little stale bread, gets out his bullocks, goes to the fields, and begins work at once. About 8

Chapter III, B.

Social Life.

The lowest and the basest.

Daily life.

(1) A man whose son is married often surrenders the *chambra* to his wife, and sleeps himself in the *chopal* or in an outbuilding, even though his own wife is still alive.

(2) The *kothi* is sometimes square with a window door, and is then used for storing clothes. A small *kothi* for grain is called a *kuthia* or (in the "Jawal di") *poridi*.

(3) A wooden shelf for clothes, etc., reached by a ladder is called *tan* and an earthen ledge (*tantri*) a foot high, with apertures for the vessels of pottery, *tantri* also runs along the foot of the wall.

(4) For a list of brass and earthen vessels in daily use see Mr. Johnson's *Beetlemani Report*, para. 891-322.

Chapter III, II.

Social Life.

Daily life.

At about his wife or a child will bring him a damped,¹ often stale, and a bowl of butter-milk or milk and water (*lassi pulki* or *dachchi*). At noon he has a hearty meal of fresh damped and a little pulse boiled with spices (*dal*), or some boiled vegetable (*sag*);² in the cold weather this is brought to him in the field; in the hot weather he goes home for it, and does not begin work again till 2 P.M. In the evening he comes home, and after feeding his cattle eats his dinner, the grand meal of the day. His wife will have pearled some jowar and soaked it in the sun till it has swelled (*khata* and) and then boiled it in milk (*rabri*); or she will have dry-boiled some whole grain and pulse mixed (*khichri*), or make a porridge of coarsely ground grain (*dali*), or boiled up glutinous rice into a pink mass (*chaman*), or make a rice-milk of it (*khir*). There will be a little prase pudding (*dal*), or the pulse will be boiled with butter-milk and spices (*khait*, *kadai*) and some pickles (*achar*) or rough *chutni*, or some vegetable boiled with salt and *ghi* as a relish. After his meal he goes out for a smoke and a chat to the *chopal*, or under the bar tree outside the village.

The grain generally used in the hot weather is a mixture of wheat, barley, and gram,³ or any two of them, generally grown nearly mixed; in the cold weather, jowar and maize.⁴ Unmixed wheat is seldom eaten, as it is too valuable. The vegetables used are the green pods of the *lobia* (*Dolichos esenensis*), the fruit of the eggplant or *Bangan* (*Solanum melongena*), and of the *beindi* (*Achras indica*), and of many pumpkins (*kaddu*), gourds (*kabri*), watermelons (*turba*) and sweetmelons (*kharkana*), and the leaves of all the brassicas, of the cockscomb or *chaulai* (*Amaranthus polygona*), *methi* (*Trigonotis fenugreek*), of the small pulses, and the roots of carrots (*gajar*). Wild plants as used have been mentioned in Chapter I. The spices and pickles are too numerous and unimportant to detail. A hearty young man in full work will eat daily from 1 to 1½ sers of grain, one-eighth of a ser of pulse, and two sers or more of butter-milk besides vegetables, &c. The richer Muhammalans occasionally eat goat's flesh; but this is exceptional; but the Hindu does not touch meat, while to the ordinary peasant of either religion, animal food other than milk and *ghi* is quite beyond his means.

The women of the family have all the grinding, cooking, cleaning the house, and spinning to do; among the Brahmans and Rajputs they are strictly confined to the wall of the court-yard, where they cook, spin, clean cotton, grind flour, husk rice, and so

(1) This is perhaps the best word for the bread eaten of the country, though it is far inferior to a well-made damped. The 8 o'clock meal is omitted in Kaitthal, but a cusimder would think badly of his farm if he did not get butter-milk with his noonday and evening meals.

(2) Usually made of the tops of gram leaves or of the young flowering shoot of mung picked before the flowers open. It is sometimes mixed with fine ground gram (beson) or barley flour.

(3) In Kaitthal *khichri* is a porridge of boiled *soya* and *dal*, and is eaten with butter-milk. Green is rarely used alone as it is heating.

(4) In Kaitthal maize is not used except in the Pothohi.

on. Among the Tagas and Gujars they go to the well for water and take the dinner to the field, and often pick cotton and sow. Among the Jats and Rors they also work, and do other hard field-work. They all sit much about in the alleys spinning and gossiping, often very much undressed; and though their life is a hard one, it is, to judge from appearances, by no means an unhappy one. The boys, as soon as old enough, are taken from the gutter and sent to tend the cattle: and from that time they are gradually initiated into the labour of their lot. At evening they play noisily about; a sort of roundness, up-st, hide-and-seek, and prisoners' tales, being favourite games. The life is a terribly dull one. The periodical fair or *mela* and the occasional wedding form its chief relief, together with the months of sugar-pudding, when everybody goes about with a yard of cane in his mouth, and a deal of gossiping (as well as a deal of hard work) is done at the point. But the toil is unrelenting; and when we think what a hard hotel in a crowded village, without of sanitation must be in July and August, we can only wonder at the marvellous patience and contentment of the villagers.

92. The men wear a *masi* turban (*pagri* or *pugli*) or a strip of cloth (*dupatta*) wound round the head; a short under-coat buttoning up the front (*kurti*); or else an overcoat (*angarkha* if long, *kurta* or *kurari* if short) fastening with a flap at the side; and a loin-cloth (*dhoti* if broad and full, *achhoti* if narrow, longer if still more soapy), or a waist-string (*lagri*, or if of silk, *pat*) with a small cloth (*langoti*), between the legs. The *kurti* is never fastened and is not graceful. A single wrap (*chadar*) in the hot weather and a double wrap (*duphar*) or a quilt (*pat*) in cold, and a pair of shoes (*patas*) complete the toilet. Trowsers (*putras*) are only worn on occasions of ceremony; a knickerbocker *angarkha* is occasionally used. Hindus and Mussulmans are distinguished by the position of the former opening to the right and of the latter to the left. Mussulmans sometimes wear their loin-cloth not passed between their legs (*dehant*); but they usually adopt the Hindu fashion, though they preserve their own name for the garment. The Jats of the south and west on occasions of state often wear turbans of portentous size, especially the Dehia and Dalal Jats. Ghawal Jats and Banias generally wear these also, and religious devotees of a yellow ochre colour. The other clothes are either white or made of prints; never whole coloured.

The married women wear a *belia* to support the breasts (*angi* or *angia*); married or single they wear a small coat down to the hips (*kurti*) buttoning to the right; a petticoat (*patiya*, *braya*) or drawers (*putiama*); and a wrap (*ordna*). The and *kanchar* women wear the coat and petticoat in one piece like a gown (*tilak*). The coat is often not worn, but a *laxpat* woman always wears it, though she sometimes omits the *belia*. Mussulman women generally wear drawers (*putiama*), and Hindu women petticoats. So again Mussulman women wear *hira* (*hirdgo*) *orda* and wraps without admixture of red or yellow; while a Hindu

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Social Life.

Daily Life.

Clothes.

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Social Life.

Clothing.

women wear red clothes as a rule, and will not wear a blue coat or wrap at all; while her petticoat, if blue, must be spotted or embroidered with red or yellow. But all Rajput women, unless very old, wear drawers, red or blue according to religion: on the other hand, Musalman Gujar women wear petticoats after consummation of marriage and till they grow old, and Hindu Gujar women wear the petticoat, spotted white or red, never wholly red. The whole red petticoat is called *damar*; and the Gujar blue petticoat, with or without spots, *tabri*: a petticoat or wrap spotted with red spots is called *thakam*, from *thaka* to spot. Only prostitutes wear wholly white clothing. Children go naked till 4 or 5 years old; sometimes boys wear a *langota*, and girls a triangular piece of cloth called *tamra*. A girl then wears a petticoat or drawers,¹ and a boy a *langota* and *togri*, and sometimes a *phulo* or shirt. A girl cannot wear saris until she is married and lives with her husband. The everyday clothes are always made from the village-made cloth, which, though rougher, is much stronger than English. Prints are largely brought into holiday use. The ordinary dyes are indigo for blue and safflower for red and yellow. A complete suit of female clothes is called *til* or *tihi*; of male clothes, *pora*.

A woman's social standing is greatly determined by her ornaments; and the women, when talking to an English lady, will often console with her on her husband's stinginess in not supplying her better. Till marriage a girl may wear a silver nose-ring and silver wristlets. These are replaced on marriage by a small gold nose-ring and glass bracelets. When she goes to live with her husband she replaces the former by a larger ornament also of gold. The glass bracelets and the nose-ring form her "*sahag*," and "*adhiagan*" therefore means a woman whose husband is alive. A widow breaks her bracelets, and throws the pieces and her nose-ring on her husband's corpse, and they are wrapped up with it in the shroud. Armlets and longlets and anklets, being solid and not easy to get off, are always worn; other ornaments only on state occasions, such as fairs and the like. The ordinary investment for *specie* capital is to buy jewels for one's wife, as the money can always be realized on occasion. The custom of tattooing (*chind*, *godna*) is common, except among the Rajputs and Brahmins. Only women do it; and they tattoo the chin, the inside of the forearm, the outside of the upper arm, the side of the waist, the calf of the leg. The Gujar do not tattoo the arm. Men and prostitutes have small holes drilled in their front teeth, and gold set in (*chhanap*).²

(B). The ceremonies connected with births, betrothals, marriages, and deaths need not be detailed. A full description of them will be found in paras. 316-335 of Mr. Hobson's Settlement Report.

Ceremonies connected with birth, betrothal, marriage, and death.

(1) In Rajput little girls often wear blue drawers (yellow or red), as about three years of age they are permitted to put on blue (yellow or red) saris; at seven years is married a girl is given a petticoat, and the marriage is taken place at a very early age.

(2) For a list of the numerous ornaments worn by men and women see Mr. Hobson's Settlement Report, paras. 314-315.

Jats marry at about 5 or 7 years old. Rurs and Gujars at 12 or 14, Rajputs at 15, 16, and even a good deal later. As a matter of fact there is no fixed age for marriage. A Hindu may not marry his foster-mother's daughter, but he can marry any other relation of his foster-mother who is not within the prohibited degrees*. A sister of the first wife may be married or any relation in the same degree but not one above or below. A Hindu may go through the phera with any number of virgins, but a second wife is seldom taken unless the first is childless.

After the wedding the marriage procession (*barat*) proceeds to the house of the boy's father, where the girl wife remains for a day or two.

The consummation takes place after the return of the girl to her husband's house, called *challa* or *subhagan*. This takes place when the girl is pubert, but must be in either the 3rd, 5th, 7th, 9th, or 11th year after the wedding. Among Rajputs, who usually marry late, there is no muliecca, and the woman goes to live with her husband immediately after marriage.

Among Mussalmans there is no *phern*, the *aikah* or Mussulman marriage ceremony being substituted for it, which the husband reads in presence of witnesses. Envoys (*rukhs*) go into the girl's house to take her consent, and come out and announce it, the boy consents himself three times, and the ceremony is complete. But among converts to Islam, at any rate, the other customs and ceremonies are almost exactly the same.

When once the ceremonial goings and comings are over the wife may never return to her father's house except with his special leave; and if he sends for her, he has to give her a fresh dowry. The village into which his daughter is married is utterly tabooed for the father, and her elder brother, and all near elder relations. They may not go to it, or even drink water from a well in that village: for it is shameful to take anything from one's daughter or her belongings. On the other hand, the father is continually giving things to his daughter and her husband as long as he lives. Even the more distant elder relations will not eat or drink from the house into which the girl is married, though they do not taboo the whole village. The boy's father can go to the girl's village by leave of her father, but not without.

97. A man may marry as often as he pleases. If he marries again on the death of his wife, he is called *dobya*. The ceremonies are exactly the same for a man's different marriages. But under no circumstances can a woman perform the *phera* twice in her life. Thus, among the Rajputs, Brahmans, and Tatars, who do not allow divorce, a widow cannot under any circumstances re-marry. But among Jats exists a remarriage

Chapter III. B. Social Life.

Ceremonies connected with birth, betrothal, marriage, and death.

Remarriage of
widows.

* For details see para. 124.

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Social Life.

Re-marriage of
widows.

is allowed under the above name. It is, in its essence, the Jewish levirate; that is to say, on the death of a man his youngest brother has first claim to the widow, then his elder brother, and after them other relations in the same degree: though *harwa* cannot be performed while the girl is a minor, and her consent is necessary. But it has been extended so that a man may marry a widow whom he could not have married as a virgin, the only restriction being that she is not of his own *got*. Thus a Gojar may marry a Jat or Ror widow. Neither marriage nor adoption, nor any other ceremony, can change the clan of a man or woman; that being, under all circumstances, the clan of the original father. Even women of marital caste can be so married: but the woman is then called *harwa*, though it is still a real marriage. The marriage must not take place within a year of the husband's death. It is effected by the man throwing a red wrap over the woman's head and putting *waistlets* (*chura*) on her arm in presence of male and female members of the brotherhood.¹

Language.

§8. Table No. VIII^a shows the numbers who speak each of the principal languages current in the district separately for each taluk and for the whole district. More detailed information

Language.	Percentage per 10,000 of population.
Unclassified	6,100
Hindi	2
Punjabi	40
All Indian languages	5,200
Some Indian languages	1

will be found in Table No. IX of the Census Report for 1881, while in Chapter V of the same report the several languages are briefly discussed. The figures in the margin give the distribution of every 10,000 of the population by language, omitting small figures.

The language of the district is Hindi, with a small admixture of Punjabi words, especially in the northern portion. The dialect varies slightly from north to south; and especially the Jats of the southern border use many words not used in the rest of the district, with a pronunciation and accent quite peculiar to them. Punjabi is spoken in the villages scattered through the Patiala territory. The small Parbia-speaking population is mostly found in the town of Karnal and owes its origin to followers of troops coming from the east, which were stationed in Karnal when it was a fortification 40 years ago. The Marwaris are mostly the Bahra traders, who have invaded this district of late years. The Bengalis are Government ser-

(1) The date and form of *harwa* referred to, when observing their respective duties, were then announced, with whom the woman was to be a widow of a member of her own husband's family, to whom even the widow was usually taken to the *harwa*, or in other words, identification with a widow cannot be a *harwa* ceremony. Customs of *harwa* marriage identical equally with those for *harwa* marriage. J.S.D.

(2) Taken together in the district as it was constituted in 1881. Hindi was not recognised as a distinct language at the Census of 1881.

rauts or their families, and the Bagri-speakers are poor people who have been driven from time to time in this direction by famine, and their descendants.

99. Table No. XIII* gives statistics of education as ascertained at the Census of 1881 for each religion and for the total population of each taluk.

	Education.	Total population.	Total educated.
Hindus	Higher instruction ..	88	81
	Elementary and below ..	372	394
Muslims	Higher instruction ..	74	23
	Elementary and below ..	12	71

The figures for female education are probably very imperfect indeed. The figures in the margin show the number educated among every 10,000 of each sex according to the Census returns. Statistics regarding the attendance at Government and aided schools will be found in Table No. XXXVII.

The distribution of the scholars at these schools by religion and the occupations of their fathers, as it stood in 1881-82, is shown in the margin.

Religion.	Per cent.	Number.
Hindus and Jains ..	..	..
Muslims ..	..	..
Christians ..	..	..
Buddhists ..	..	..
Sikhs ..	..	..
Others ..	..	..
Children of Government ..	1,000	..
Children of private ..	1,000	..

The villagers are, as a mass, utterly uneducated. A considerable number of the headmen can read and write Mahajani, or Hindi as they call it, to some extent; but many of them do not know even that, and probably not a score

of them can write the Persian character. Outside the rank of the headmen the people are almost wholly illiterate. It is very difficult for a villager to send his boy to school unless there is one in or quite close to his village; and even when this is the case they object to sending their sons to school, because, they say, it renders them discontented with, and unfit them for their position. The Persian, especially, they object to.

100. It is impossible to form any satisfactory estimate of the wealth of the commercial and industrial classes. The figures in the margin show the working of the income-tax from 1869-70 to 1871-72, and Table No. XXXIV gives statistics for the licence tax for each of the years during which it was in force. The distribution of

Poverty or wealth of the people.

Assessment.	1869-70.	1871-72.	1873-74.
Class I	Revenue taxed ..	208	201
Class II	Revenue of tax ..	1,822	18,400
Class III	Revenue of tax ..	54	105
Class IV	Revenue of tax ..	1,120	6,291
Class V	Revenue of tax ..	78	80
Class VI	Revenue of tax ..	1,040	2,720
Class VII	Revenue of tax ..	1	24
Class VIII	Revenue of tax ..	2,001	600
Class IX	Revenue of tax ..	..	..
Class X	Revenue of tax ..	..	2,700
Class XI	Revenue of tax ..	60	10
Class XII	Revenue of tax ..	1,100	27,000

*This applies to the district as it was constituted in 1881.

Chapter III. B.

Social Life.

Industry or wealth
of the people.

Income granted and tax collected from 1880-81 to 1885-86 between towns of over and villages of under 5,000 souls, is shown below :—

Detail.	1880-81.			1881-82.			1882-83.			1883-84.			1884-85.			1885-86.		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Towns	181	2,241	...	184	2,240	...	182	2,852	...	181	2,241	...	181	2,241	...	181	2,241	...
Villages	181	2,241	...	184	2,240	...	182	2,852	...	181	2,241	...	181	2,241	...	181	2,241	...
Total	362	4,482	...	368	4,480	...	364	5,704	...	362	4,482	...	362	4,482	...	362	4,482	...

The receipts from income tax exclusive of deductions from the salaries of Government officials have been :—

Year.	Collection.
	Rs.
1880-87	18,606
1887-88	22,754
1888-89	28,702
1889-90	40,079

But the numbers affected by these taxes are small. It may be said generally that a very large proportion of the artisans in the towns are extremely poor, while their fellows in the villages are scarcely less dependent upon the nature of the harvest than are the agriculturists themselves, their fees often taking the form of a fixed share of the produce while even where this is not the case, the demand for their products necessarily varies with the prosperity of their customers. Perhaps the leather-workers should be excepted, as they derive considerable gains from the hides of the cattle which die in a year of drought. The circumstances of the agricultural classes are discussed below in section E. of this chapter.

Character and Disposition of the people.

101. The character and disposition of the people is thus described by Mr. Dobson :—

"I have a great liking for the ordinary villager. His life is one of monotonous toil under very depressing circumstances. He grumbles much, but only as a farmer is bound to do; and he is warlike, patient, cheery, and contented on the whole. He is often exceedingly intelligent considering his opportunities, he is hospitable in the extreme, and he loves a joke when the point is broad enough for him to see. His wants are easily satisfied; he has formulated these thus :—

- "Das chunga bol deth, jee day men barri;
- "Hakk khandi ugi, na nek no jori;
- "Bhar khandi, le dulla, na rohar ghola;
- "Dua de barhi, to boke na laina."

"Let me see ten good ears and ten measure of mixed grain, the milk of a grey buffalo and some sugar in water into it, a fair assessment demanded after the harvest. God give too so much, and I won't say another word."

"I will even say that according to his standard he is moral, though his standard is not ours. The villager looks at the end, and not at the means. If he honestly thinks that his friend is in the right in his claim, a respectable man will tell any number of circumstantial lies to produce the same impression on the mind of the Judge. But if he thinks him to be wrong, he will not bear evidence either for or against him; he will say that he knows nothing about the matter. And when formally confronted by the whole brotherhood, a villager will rarely persist in a claim which he knows to be false. Of the good faith that governs the mass of the people in their dealings with one another, it would I believe, be difficult to speak too highly, especially between members of the same community. Of their sexual morality, I can say nothing. If scandals are common, we hear but little of them, for they are carefully hushed up. My impression is that the village life is infinitely more pure in this respect than that of an English agricultural village; partly, no doubt, because of the early marriages which are customary."

"The loyalty of the people in the tract is, I think, beyond question. They remember the horrors of the days of anarchy which preceded our rule too vividly to be anything else. Two points in our administration, however, are especially complained of by them. They complain bitterly of Native Judges;¹ and say that, since their authority has been extended, *under long reign*, it has begun to grow dark. And they object to our disregard of persons, and to our practical denial of all authority to the village elders. They say that a headman nowadays cannot box the ears of an impudent village scoundrel without running the risk of being fined by the Magistrate; and I think it can hardly be denied that, in many respects, our refusal to recognise the village as a responsible unit is a mistake; while, when we do partly enforce the system of joint responsibility, we wholly deny to the people the privilege of joint government."

Tables Nos. XI, XII, and XIII give statistics of crime; while Table No. XXXV shows the consumption of liquors and narcotic stimulants.

(1) Immoral relations between unmarried persons of the same tribe and got possibly rarely occur, because they involve incest; marriage between such persons being unlawful. The late Deputy Commissioner, Mr. Brinsford, has pointed out to me the marked effect which this has in upholding the village morality.—J. M. D.

(2) Misplaced honor is certainly a "name of scorn" in Karnal. In the early days of our rule the people probably suffered from the importation of N. W. P. officials. At the same time I have heard them talk in the highest terms of two native officials, who have served recently among them. In 1844 these two Ahalas first of all a village tyrant, and now were returned as administrators after conversion was made, and I doubt whether Karnal people instinctively trust the Ahalas of any individual. Witness the local proverb: *Halon be gauri be aur ghore be paharon be kharon bahu chandni, which means 'I will the face of a halon and the hands of a house'.*—J. M. D.

Chapter III, C.

Religious Life.

General statistics
and distribution of
religions.

SECTION C.—RELIGIOUS LIFE.

102. Table No. VII¹ shows the numbers in each tahsil and in the whole district who follow each religion, as ascertained in the Census of 1881, and Table No. XLIII² gives similar figures for towns. Tables Nos. III, IIIA, IIIB of the Report of that Census give further details on the subject. The distribution of every 10,000

Religion	Rural population	Urban population	Total population
Muslims	7,902	5,280	7,294
Hindus	147	82	180
Sikhs	65	100	75
Christians	2,189	4,710	2,008
	1	6	1

Sex	Rural population	Total population
Male	683	683
Female	121	121
Others and unspecified	20	20

of the population by religious is shown in the margin. The limitations subject to which these figures must be taken, and especially the rule followed in the classification of Hindus, are fully discussed in Part I, Chapter IV of the Census Report. The distribution of every 1,000 of the Musalman population by sex is shown in the margin. The facts

of the Christian population are given in Table No. IIIA of the Census Report; but the figures are, for reasons explained in Part VII, Chapter IV of the Report, so very imperfect that it is not worth while to reproduce them here.

Table No. IX³ shows the religion of the major castes and tribes of the district, and therefore the distribution by caste of the great majority of the followers of each religion. A brief description of the great religions of the Punjab and of their principal sects will be found in Chapter IV of the Census Report. The religious practices and beliefs of the district present no special peculiarities; and it would be out of place to enter here into any disquisition on the general question. The general distribution of religions by tahsils can be gathered from the figures of Table No. VII; and regarding the population as a whole no more detailed information as to locality is available. Practically the religions of the district reduce themselves to two. There are few Sikhs or Christians, and no Buddhists; only an occasional Jain is to be seen; the Saraojis, who have two fine temples in Panipat, are almost confined to the towns, and wholly to the Beni caste; and the village communities are, almost without exception, either Musalman or Hindu. Among Hindus are included the sweeper caste, who would

(1) This applies to the district as it was constituted in 1881.

not be recognised by Hindus proper as belonging to their religion.

Chapter III, C.
Religious Life.

Muslimans.

103. The Muslimans of the district must be divided into two very distinct classes. The original Muslimans, such as Satyids, Pathans, Kura-his, Shokhs, and Moghals, are strict followers of Islam. In the villages a few laxities have crept in; but in the main their religion and its customs are those of all Muslimans, and we need say no more about them. But the case is very different with the Musliman Rajputs, Gujars, and similar converts from Hinduism. Their conversion dates, for the most part, from the close of the Pathan, and the early days of the Moghal dynasty. Many of them are said to have been converted by Surangnah, who is known in the district as Naurang badshah; and these were probably the last made, for the change of faith always dates from at least eight generations, or 200 years back, and proselytism was, of course, unknown under the Sikhs and Marhattas. In some cases the whole community of a village is Musliman; but quite as often one branch has been won, and the other retained their original faith, and in no case has any considerable group of villages embraced Islam as a whole.

Living thus side by side with their Hindu brethren in the same or the next village, sharing property in the same land, and forming a part of the same family with them, it is impossible that the Musliman converts should not have largely retained their old religious customs and ideas. In fact, till some 25 years ago, they were Muslimans in little but name. They practised circumcision, repeated the *kalims*, and worshipped the village deities. But after the mutiny a great revival took place. Mohammedan priests travelled about preaching and teaching the true faith. Now almost every village in which Muslimans own any considerable portion has its mosque, often of adobe only, and all the grosser and open idolatries have been discontinued. But the local deities and shrines still have their shrines, even in villages held only by Muslimans; and are still worshipped by the majority, though the practice is gradually declining. The women, especially, are offenders in this way. A Musliman woman who had not offered to the small-pox goddess would feel that she had deliberately risked her child's life. Family priests are still kept on as of old; and Brahmans are still fed on the usual occasions. As far as superstitions, as distinct from actual worship, they are untouched by the change of faith, and are common to Hindu and Musliman.

(1) The rest of Chapter III, C, is taken from Mr. Blomson's Settlement Report. I have made a few additions, chiefly in the form of notes.—J. M. D.

Chapter III. C.

Religious Life.

Hindus

104. The student who, intimately acquainted with the Hindu Pantheon as displayed in the sacred texts, should study the religion of the Hindus of the district, would find himself in strangely unfamiliar company. It is true that all men know of Shiva and of Vishnu; that the peasant, when he has nothing else to do to that degree that he yawns perforce, takes the name of Narayan; and that Bhagwan is made responsible for many things not always to his credit. But these are the lords of creation, and too high company for the villagers. He recognises their supremacy; but his daily concerns in his work-a-day-world are with the host of deities whose special business it is to regulate matters by which he is most nearly affected.¹

Minor deities.

105. These minor deities, whose cult comprises the greater part of the peasant's religious ideas and acts, may be broadly divided into four classes. First come the benevolent deities, such as the Sun, the Jamma, Bhomia, Khwaja Khair, and the like. Then the malevolent deities, mostly females such as the Small-pox Sisters, Snake, the Fairies, &c. Then the sainted dead, such as Ganga, Lakshmi, and Bawa Farid; and finally, the malevolent dead, such as Saiyids (Shahids). It is a curious fact that most of the malevolent deities are worshipped chiefly by women, and by children while at their mother's apron. Moreover, the offerings made to them are taken not by Brahmans, but by impure and probably aboriginal castes² and are of an impure nature, such as charms, fowls, and the like. And they are seldom or never worshipped on Sunday, which is the proper day for benevolent Hindu deities. The primordial Aryan invaders must have inter-married, probably largely, with the aboriginal women; and it is a question to which enquiry might profitably be directed, whether these deities are not in many cases aboriginal deities. Even setting aside the theory of inter-marriage, it would be natural that the new comers, while not caring to invoke the aid of the beneficent genii but, might think it well worth while to propitiate the local powers of evil upon whose territory they had trespassed. In this very spirit the Hindus have adopted the worship of the Muhammadan saints, and especially of the more malevolent ones. It can do no harm to worship them, while they may be troublesome if not propitiated; and all these saints are commonly worshipped by Hindus and Muhammadans alike.

(1) Brahma is never mentioned save by a Brahman, and many of the villagers hardly know his name.

(2) In a vulgar sort of way the peasant is a misanthrope. The name of Parsamra, "the crooked hind," is often on his lips, and he believes that rain and hail, wind and storm, fulfil his word. He always defers the business on failure of his crops to the will of Parsamra. The goallings mean, a the school Department of the world's affairs.—J. M. D.

(3) In some cases the Brahmans will consent to be fed in the name of a deity, when they will not take offerings made of his substance. And they will in some villages allow their girls to take the offerings, for if they die in consequence it does not matter much. Boys are more valuable, and must not run the risk.

106. There can be no doubt that the presence of Islam by the side of Hinduism has had considerable effect upon the latter.¹ The Hindu villager, when asked about his gods, will generally wind up by saying "after all there is but one great one," and they generally give the information asked for with a half smile, and will often shake their finger and say it is a *kurkha* religion. Of course the existence of such a feeling is exceedingly compatible with the most scrupulous care not to neglect any of the usual observances; and, whatever might be his private convictions or absence of conviction, a man would feel that it would be pre-eminently unsafe to omit the customary precautions, and be thought ill of if he did so.

107. A peculiar sect, known as *Sadhs*, and mostly of the Jat tribe, own the village of Zainpur Sadhan and half of Gurhi Sadhan in the *Judri pargana*. They are followers of the Gurm Uddi Das, who was doubtless a reformer of the type of Kabir or Nanak. They worship no material object, paying no respect to the Jamna or Ganges. They have no temple or idol, and worship only the one God under the title of "Sat," or the "true one." They have a *gurudwara* in which the whole community meets on each day of the full moon (*paramani*), when the precepts of the sect are recited. Music is not allowed in their worship. They neither see nor feed Brahmans, nor allow them to take any part in their weddings or funerals. At marriages the phara is presided over by a "*panch*" of respectable *Sadhs*. Following the leaders of their guru, they seldom to us, one but the Supreme Being, and this peculiarity sometimes gets them into trouble with native officials.

108. Temples proper are built only to Vishnu and Shiv, and hardly ever by the villagers, who content themselves with making small shrines to the local deities.² In Kaithal there are monasteries at Pehowa, Dhandarhari, Ranthali, and Gehna.

109. The most ordinary form of worship is a salutation made by joining the hands palm to palm, and raising them to the forehead (*dhak murai*). A villager does this whenever he passes the shrine of a village deity. In one village the mason who built the new common room, threw in, as a thanks-offering for the completion of the work, a wooden Englishman who still sits on the top of the house;

Chapter III. C.

Religious Life.

Effect of Islam upon
Hindus.The sect of *Sadhs*.

Sectism.

Modes of worship.

(1) I have known a Hindu *lambardar*, a Herby tribe, when my horse shambled, exclaim "Allah!" with great deference, and when asked why, he explained that Allah and Kala were one, apparently taking Allah as an orthodox Hindu name for the Deity. A Mussulman Hajj *shaid*, when told he should be allowed to look at a club with grooved images dug out of the belt of the old Uttagar, replied:—"Why, our fathers made them." Religious bigotry is still confined to the towns.—J. M. D.

(2) These shrines are usually called *chaks*; the larger building erected in honour of Guru Sir is always called a *guri*, while *Haris* Sir's shrine is a *malak*.—J. M. D.

Chapter III. C. Religious Life.

Mode of worship

and, though the rain has affected his complexion much for the worse, the people always salute him on coming out of their houses in the morning. There is also *chhakarua*, which consists in touching first the object to be worshipped, and then the forehead, with the right hand. Another form of worship is to scoop out a little hollow in the earth by the shrine and fling the soil on to a heap. This is called *matti hadna*, and seems very much analogous with the common custom of flinging stones on to a cairn. It is practised chiefly in honour of ancestors and fairies, and heaps of mud raised in this way by a shrine sometimes reach a height of 8 feet. The person doing this will often say to the god "I will dig you a tank;" and perhaps the custom has its origin in the honour attachable to the maker of a tank in this thirsty land; but it is equally possible that this is only a local explanation of a custom brought from a more stony country, and the origin of which has been forgotten, for hundreds of our villagers have never seen a stone in their lives.

Offerings.

110. Offerings (*charcharu*) generally take the form of a little grain, or milk, or cooked food, or a few sweetmeats offered in front of the shrine in small mawra or jars, the remainder of the offering being given to the appropriate receiver. Libations are not uncommon; and a white cock is sometimes killed. And in many cases Brahman are simply fed in the name of the god. Offerings of cooked food may be divided into two classes. To the benevolent gods or to ancestors, only *pakki roti*, that is cakes or sweets fried in ghee may be offered; while to the malevolent and impure gods, *kachhi roti*, generally consisting of *churma*, or stale bread broken up and rolled into balls with ghee and ghee, is offered. Brahmans will not take the latter class of offerings. *Yaks* (*hakul*) are common, the maker promising to build a shrine or feed so many Brahmans in the event of his having a son, or recovering from illness, or the like.

Possession, divination, and exorcism.

111. When a villager is ill, the disease is generally attributed to the influence (*opri, shapet*) of a malevolent deity, or of a ghost (*bhut*) who has possessed him (*shipt or chhadi or jalakh jnah*). Recourse is then had to divination to decide who is to be appeased, and in what manner. There is a class of men called *bhagats* or *gyans* (literally, knowing ones) who exercise the gift of divination under the inspiration of some deity or other, generally a snake-god or Saiyul. The power is apparently confined to the manual (aboriginal?) caste, is often hereditary, and is rarely possessed by women; it is shown by the man wagging his head and dancing, and he generally builds a shrine to his familiar spirit, before which he dances. When he is to be consulted, which should be at night, the inquirer provides tobacco and music. The former is waved over the body of the invalid, and given to the *bhagat* to smoke, and the music plays, and a ghee lamp is lighted,

and the *bhagat* sometimes takes himself with a whip; under which influence the moonshayer is seized by the affliction, and in a paroxysm of dancing and head wagging, states the name of the malignant influence, the manner in which he is to be propitiated and the time when the disease may be expected to abate. Another mode of divination is practised thus: The *gyani* will wave wheat or *jeer* over the patient's body, by preference on Saturday or Sunday; he then counts out the grains one by one into heaps, one heap for each god who is likely to be at the bottom of the mischief, and the deity on whose heap the last grain comes is the one to be appeased. The waving of the grain or tobacco over the patient's body is called *chakuna*; the counting the grains *kevali*.¹

The malignant deity is appeased by building him a new shrine or by offerings at the old one. Very often the grain to be offered is put by the head of the sufferer during the night and offered next day; this is called *erit*. Or the patient will eat some and bury the rest at the sacred spot, or the offerings will be waved over the patient's head (waving before being offered; or on some moon-light night while the moon is still on the wax, he will place his offering with a lighted lamp on it at a place where four roads meet; this is called *langri* or *nagdi*. Sometimes it is enough to tie a flag on the sacred tree or to roll on the ground in front of the shrine, or to rub one's neck with the dust of it. Boils can often be cured by stroking them with a piece of iron and repeating the name of the deity concerned. Witchcraft proper (*jadu*) is principally practised by the lowest castes, and you hear very little of it among the villagers.

112. The Hindus of the district are Vaishnavas, though Vishnu is hardly recognised by them under that name. But under the name of Ram and Narayan he is the great god of

Chapter III, C. Religious Life.

Prayer, fasting, divination, and exorcism.

Vishnu, Ram, and
Narayan.

113. Cattle disease is combated by performing *tsaka*. A Sadhu is called in. While the ceremony lasts no grain must be ground or cooking causing noise carried on in the village, in case the *devata* should be driven away. The Sadhu marks out a space on the ground, lights a fire and goes through certain ceremonies. A rope is stretched across the entrance of the village below which the cattle must pass. The tails of the Sadhu's fire are tied up in place of ring and these with an earthenware lid marked with *Om* and *Shiva* signs and an earthenware vessel also containing ashes are attached to the rope. The Sadhu makes 2 bellows, one of fish grass and the other of turgid of the same grass, and with these he sprinkles the animals as they pass under the rope in the morning. A phoebe-shorn with a bag of ashes fastened to it is also fixed in the ground outside the village gate. The cows look for a few days, during which lamps are lit daily by the Brahmins at the village *Shakti* (p. 117) Ghat which during the year are not given to the women, but burned when they die. A dog and a cat are tied in a lane beside the village. Apparently the Sadhu is paid by means of getting nothing if the disease does not die. In *Keethal* a girl, consisting a *skathi* or *tsaka* from the Nawab of Malabar is kept near the village gate. The Nawab gives these letters free of charge. This is a popular remedy, both with Mussulmans and Hindus, and no doubt is quite as effective as the more elaborate *jadu*.—J. M. D.

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Religious Life.

Vishnu, Shiva, and
Narayana.

the country. Temples to him (*Dakshinamurthy*) exist in several of the larger villages, generally built by Brahmans or *Bairagis*, and almost always insignificant. He is worshipped under the name of *Ram* by Rajputs only; under the name of *Narayana* by other castes. On the 11th of *Katik* or *dandhni gyaras*, when the gods wake up from their four month's sleep, Brahmans are fed in his name; and on the 8th of *Shradan* (*Jannashrami*), such villages as have fasted, which no man working in the fields will have done, will generally go to the *Dakshinamurthy* and make an offering. And on some Sunday in *Shradan* they will feed a few Brahmans in his name. Brahmans and *Bairagis* take the offerings.

Sikh Mahadev.

113. *Shivalas* are not at all uncommon in the villages, built almost without exception by *Bairagis*. The priests are *Thamars* or *Jogis*, generally of the *kamphata* or ear-pierced class, and they take the offerings. No Brahman can partake of the offerings to *Shiv*, or be priest in his temple, though they will worship him and sometimes assist in the ceremonies, thus deviating from the strict rule of the original cult. On the *Shivratni*, on the 13th of *Sawan* and *Phagan*, such people as have fasted will go to the *Shivala*; but it is seldom entered on any other days.

Surya Devata, i. e.
the sun god.

114. The Sun is the god whom the people chiefly delight to honour. Any villager if asked whom he worships most will mention him. No shrine is ever built to this god. Sunday is of course the day sacred to him. On Sunday the people do not eat salt; nor do they set milk for *ghai*, but make it into rice-milk, of which a part is given to the Brahman in honour of the Sun; and a lamp is always burnt to him on Sunday. Brahmans are fed every now and then on Sunday in his name, and especially on the first Sunday after the 15th of *Sark*, when the harvest has been got in, and the agricultural year is over. Before the daily bath water is always thrown towards the Sun (*argh*);¹ and every good man, when he first steps out of doors in the morning, salutes the Sun, and says *dharm ko kahai rakhiye saraj maharaj*, or "keep me in the faith, oh Lord the Sun." Brahmans take the offerings.

The Jamna.

115. After the Sun comes the River *Jamna*, always spoken of as *Jamna Ji*; and so honoured that even when they complain of the terrible evils brought by the canal, which is fed from the river, they say they spring *Jamna Ji ki dulaai se*, "from Lady *Jamna's* friendship." There are no shrines to the *Jamna*; the people go and bathe in the river, or, if unable to go so far, in the canal, on the *pothas* or *subrams* in *Chait* and *Katik*, on the *Dussehra* of *Jeth*, and on the 15th of *Katik*, or every day in that month if near enough. And Brahmans are constantly fed on Sunday in honour of *Jamna Ji*, and take all offerings.

(1) Sometimes called *Surya Narayan*—J. H. D.

(2) This is done to the sun—mean too as the meaning of her appearance, if one thinks of it.

116. Every morning, when a man first gets off his bed, he does obeisance to the earth, and says *sakk sakhiya-Bharthi Mata*, "preserve me Mother Earth." When a cow or buffalo is first bought, or when she first gives milk after calving, the first five streams (*dhar*) of milk are allowed to fall on the ground in her honour, and at every time of milking the first stream is so treated. So when medicine is taken, a little is sprinkled in her honour. So at the beginning of ploughing and sowing obsequence is made to her and she is invoked.

117. *Bhumia* should, from his name, be the god of the land, and not of the homestead. But he is, in these parts, emphatically the god of the homestead or village itself, and is indeed often called *Khar* (a village) and *Bhumia* indifferently. In one or two villages a god called *Bhairav** or *Khetpal* (field-mourisher) is worshipped; but, as a rule, he is unknown. When a new village is founded, the first thing of all is to build a shrine to *Bhumia* on the site selected. Five bricks are brought from the *Bhumia* of the village whence the emigrants have come; three are arranged on edge like the three sides of a house, the other two are put over them like a gable roof, an iron spiko is driven in, five lamps are lighted, five *laddus* are offered, Brahmans are fed, and the shrine built over the whole. In many cases, where two villages had combined their homesteads for greater security against the marauders of former days, the one which moved still worships at the *Bhumia* of the old deserted village site. *Bhumia* is worshipped on Sunday. They burn a lamp and offer a cake of bread at the shrine, and feed Brahmans. This is always done twice a year, after the harvests are gathered in, and also on other occasions. *Bhumia* is also worshipped at marriages; and, when a woman has had a son, she lights a lamp and affixes with cowdung five blades of the *ponai* grass, called *beria*, to the shrine. So too the first milk of a cow or buffalo is always offered to *Bhumia*. Women commonly take their children to worship *Bhumia* on Sunday. The shrine is very usually built close to the common room or just outside the village gate; and the only villages in which there is not one are held wholly by Saiyids. Brahmans take the offerings.

118. *Khwaja Khizr* is the local god of water; though the name really belongs to one of the Muhammadan prophets, whose special duty it is to take care of travellers. He is worshipped more in the *Khadir* than in the *Buzurg*, and especially on Sunday. Twice a year after the harvests he is worshipped at the well, lamps being lighted and Brahmans fed. And on the festivals of Holi and Diwali, a raft called *langri* is made of the *beria* just mentioned, and a lighted

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Religious Life.

Bharthi Mata or
Mother Earth.

Bhumia or the god
of the homestead.

Khwaja Khizr, the
Wasser-god.

* *Bhairav*, or the terrible one, in the Brahmanical religion is a form of Mahadev. He is worshipped under various forms, such as *Kali Bhairav*, *Blat Bhairav*. He has become a part of the village religion because, as *Blat Bhairav*, he drives away all the numerous *Bhuts* who live in the earth.—J.M.D.

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Religious Life.

The 10 ancestors

lamp put on it and set afloat on the tank in his honour. Brahmans take the offerings to Khwaja Khier, though they are occasionally given to the water-carrier or *dhinwar*.

119. Among the Gajars especially, tiny shrines to the ancestors are common all over the Beld; and among other castes they will be found in every village. Occasionally the shrine is to the female ancestor, and built upon the brick brought from his shrine at the place of origin, as with the Jāgjan and Sandha Jats. Mud is always flung up to these shrines. And all the people feed Brahmans in honour of their ancestors on the 15th of the month (*masam*), and especially in the *Samyot*, or the 15 days previous to and including the names of *deog*, which are specially sacred to the *pir*. Cattle are never worked on *masam*.

Caste.

120. There are a great number of *sati* or places where widows have been burnt on their husbands' pyres all over the country. They are generally marked by large shrines 3 or 4 feet square. Lamps are lit and Brahmans fed at them on the 11th or 15th of Kartik. In one case Tagas, who had emigrated from their old village, used yearly to come more than 40 miles to offer at their old *sati* till quite lately, when they took away a brick from the *sati* and used it as the foundation of a new *sati* at their present village, which answered all purposes. This is always done in the event of emigration. Brahmans take the offerings.

The *gyal* or *sunfai*
dead.

121. When a man has died without a son (*ut napat jina*) he becomes a *gyal* or *ut*, and is particularly spiteful, especially seeking the lives of the young sons of others. In almost every village small low platforms (*bharka*, *baika*) with *sunfai*-like depressions in them, are made to the *gyals*; and on the *masam*, and especially on *Uswai* or the *masam* of Kartik (but not in the *laungat*, which is sacred to the *pir*), the people pour Gangawater and cow's milk into these *sunfais*, and light lamps and feed Brahmans, and dig mud by them. It is more than probable that *bharkas* are identical in origin and significance with the "cup marks" which have so puzzled antiquaries. Brahmans take the offerings. Young children often have a *rupai* hung round their necks by their mothers in the name of the *gyals*.

The *Sevni* or small
pot group.

122. The particular group of diseases is supposed to be caused by a band of seven sisters, of whom Sitala or Mata, the goddess of small-pox, is the greatest and most virulent. Others of the group are Masani, Basanti, Maha Mai,* Polanda, Lamkaria, and Agwani or the little one who goes in front of all. But the general form the shrine takes in a village is that of a large one for Sitala, and a number of others for the sisters, of whom the people will know the name of only one or two

* This is properly a name of Devi who drives people mad, and is worshipped by some, but not very generally, as the *Sev* of Chail and Ag-.

Bumti is a new addition to the group, the disease having quite lately come from the hills. They are sometimes called *Sri Sitala*, *Mai Mumi*, *Bari Basanti*, and so forth. The people profess to distinguish the disease due to each; but it is impossible to find out what they are, except small-pox, which is undoubtedly due to *Sitala*.

There are seven principal shrines to these deities at Patri, Kalri, Boholi, and Siwa of this district; Bidhan near Bhagaur, Bidham near Jhajjar, and at Gurgaon itself. They are never worshipped by men, but only by women and children of both sexes up to the age of 10 or 12. Enormous crowds collect at these shrines on the 7th of Chait which is called *ai* or *sile aiten*, or *Sitala's 7th*. Besides this, *Prag* or *Dolendhi*, the day after the *Holi* festival, is a favorable day, and any Monday, especially in Chait and Sakh. *Sitala* rides upon a donkey; and *gama* is given to the donkey and to his master the potter at the shrine, after having been waved over the head of the child. Fowls, pigs, goats, coconuts, and *churma* are offered, and eaten by sweepers and Hindu Jogi, and white cocks are waved and let loose. An adult, who has recovered from small-pox should let a pig loose to *Sitala*, or he will be again attacked.¹ During an attack no offerings are made; and, if the epidemic has once seized upon a village, all offerings are discontinued till the disease has disappeared, otherwise the evil influence (*chhat*) will spread. But so long as she keeps her hands off, nothing is too good for the goddess, for she is the one great dread of Indian mothers. She is, however, easily frightened or deceived; and if a mother has lost one son by small-pox, she will call the next *Kurri*,² he of the dunghill; or *Boharu*, an outcast; or *Mara*, the worthless one; or *Bhagwans*, given by the great god. So, too, many women dress children in old rags begged of their neighbors, and not of their own house, till they have passed the dangerous age.

123. The country is covered with small shrines to Musalman martyrs; properly *Shahids*, but called *Saiyids* by the villagers. There was a Raja Thara in the Nardak, after whom several villages are still called Thara, and who dwelt in Kalri. He used to levy feudal rights from virgin brides. One night the daughter of a Brahman suffered thus. Her father appealed for help to Miran Sahib, a Saiyid, who collected an immense army of Saiyids, Mughals, and Pathans, and who vanquished the Raja. The fight extended over the whole country to Bohli; and the Saiyid shrines are the graves of the Mussulmans who

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Religious Life.

The *Sitala* or small-pox group.

The *Saiyids* (*Shahids*) or martyrs.

(1) I have seen a pig actually sacrificed at the shrine.—J.M.D.

(2) Other appropriate names are *Chhat* (an old shoe), *Chakra* (spinning), *Chakra* (as worthless as a *chakra* or spinning basket), *Gardas* (traded along the ground), *Nalla* (having a sick or nose-ring). The last name requires some explanation. If a woman have had several male children, the wife of the next born is placed and a nose-ring inserted, in order that the neighbors may mistake him for a girl and so pass him over. Mr. Ishwara compares two penny halfpence, &c.—J.M.D.

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Religious Life.

The *Saizids*
(*Saizids*) or
martyrs.

tell. But a favourite prescription in sickness is to build a shrine to a *Saizid*, whose name is often not even given, and, when given, is almost always purely imaginary, so that the *Saizid* shrines are always being added to, and most of them are not connected with any actual person. Lamps are commonly lit at the shrines on Thursdays; but offerings are seldom made except in illness or in fulfilment of a vow; they often take the form of a fowl or a goat or especially a goat's head (*siri*), and they are taken by *Muselman fakirs*. *Saizids* are very fond of blue flags. One of the Imperial *kos minars* or milestones has been transformed into a *Saizid's* shrine by the people of Karnal city, and every Thursday evening there are worshippers, and *fakirs* to profit by them. The *Saizids* are very malevolent, and often cause illness and death. One *Saizid* Bhara, who has his shrine at Bari² in Kaithal, shares with Manu Devi of Muni Majra the honour of being the great patron of the thieves in this part of the Punjab; and a share of the booty is commonly given to the shrine. Boils, especially, are due to them; and they make cattle miscarry.

The Singh or snake
gods.

124. There is a group of *Nagans*, or female Snake-deities, known as *Singhs* by the people, and especially called *Demata* or goddesses. They are almost always distinguished by some colour; and the most commonly worshipped are *Kali*, *Hari*, and *Bhuri Singh*, or black, green, and brown. But here again the *Shagat* will often direct a shrine to be built to some *Singh* whom no one has even heard of before; and so they multiply in a most confusing way. They are servants of Raja Basak Nag, King of Patal or Tartarus. Dead men also have a way of becoming snakes—a fact which is revealed in a dream, when a shrine must be built. Their worship extends all over the district, and is practised by all castes; but most of all by Gujars, and in the Khadir. If a man sees a snake he will salute it; and, if it bite him, he or his heirs, as the case may be, will build a shrine on the spot to prevent a repetition of the occurrence. But independently of this, most villages have shrines to them. Sunday is their day; and also the Pk of Bhadon in particular, when most people worship them. Brahmins do not mind being fed at their shrines, but will not take the offerings, which go to Hindu *Jogis*. Both men and women worship them, especially at weddings and births, and offer charms and songs (*bhujas*). They cause fever; but are not in the whole very malevolent, and often take away pain. They have great power over milch cattle; the milk of the 11th day after calving is offered to them; and libations of milk are very acceptable to them. They are certainly connected in the minds of the people with the *pirs* or ancestors, though it is difficult to say exactly in what the connection lies. Wherever the worship of the *pirs* is most prevalent, there the snake-gods also are especially cultivated. The snake is the common ornament on almost all the minor Hindu shrines.

(1) *Kalid* (p. 24, 15)

125. *Guga*, or *Jahir Pîr*, or *Dagarwala*,¹ though a Mussalman, is supposed to be the greatest of the snake-kings. He is buried near Hissar, but is worshipped throughout the district. The 9th and 13th of Bhadon, especially the former, are his days; and generally the 9th of any month; and also Mondays. His shrine is usually a cubical building with a mirror on each corner, and a grave inside. It is marked by a long bamboo with peacock plumes, a coconut, some coloured thread, and some hand-painted (*shijne*) and a blue flag on the top. This is called his *chhari* or fly flag; and on the 9th of Bhadon the *Jogis* take it round the village to the sound of drums, and people salute it and offer *charmas*. He is not malevolent; and the loss of respect which his good nature causes him is epitomised in the saying—*Guga bete na daga, tau kuchh an chhin legu*—"If *Guga* doesn't give me a son, at least he will take nothing away from me." He is associated by the people with the five *Pîrs*, who occasionally have shrines in the villages.

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Religious Life.

Guga Pîr.

126. The *Naris* are a somewhat vaguely defined class of malevolent spirits, who attack women only, especially on moon-light nights, giving them a choking sensation in throat and knocking them down (? hysteria). Children, on the other hand, they protect. They seldom have shrines built to them; but a tree or a corner by a tank is generally sacred to them, and here mud is hung to them. They are *Musalman*, and are apparently the same as the *Parind* or *Pari*, being also known as *Shakparis*; but they resist being called so, and no women would mention the word. *Chaurans* are offered to them on Thursday evening by women and children, and taken by *Musalman Jaksirs*, or sometimes *Jogis* or sweepers; and they are worshipped at weddings. The middle of Chait, too, is a common time for offerings to them.

The *Naris* or *Narins*.

(1) *Guga* was by race a *Chachan Rajput* and a direct descendant of the great Raja Manoh Rai. He was born at Gachhara near Hissar. His father was Raja Jagan and his mother's name was Rasal. She was barren, and in hopes of obtaining a son attended for 12 years on the saint Gernaknath, the holder of the community of *Kamphata Jogi*. Her sister Kamal stole her clothes, and being mistaken for Rasal got two flowers from the saint, and wore two *chun* *Ujan* and *Baryan*. When he went to Gernaknath and told him how her sister had robbed her of her rights, he gave her a staff, providing her a son who would be successful in all the four quarters, and born two sons Ujan and Baryan. When he went to Gernaknath and told him how her sister had robbed her of her rights, he gave her a staff, providing her a son who would be successful in all the four quarters, and born two sons Ujan and Baryan. The two little shrines usually built to right and left of *Guga*'s shrine are sometimes explained as being dedicated to Narayan (*Guga*'s *Bhama*) and Gernaknath. Others say they are dedicated to Kall Singh and Bhai Singh. *Guga* is worshipped in trees planted under a house, and about 10 paces from the Nagar country by means of *Ujan* and *Baryan*. His mother stands in front of the house, trying to prevent her son's departure. He hides in his hand a long staff (*shaka*), and over his head the heads of 2 snakes move, the body of one being called round the staff. If a man is bitten by a snake people think he has been neglecting the staff. If a man is bitten by a snake people think he has been neglecting the staff. Both Hindu and *Musalman Jogi* take his offerings. His peculiar flag is made almost entirely distinguished. His worship extends into the N.W. Provinces and possibly the limits within which he is worshipped would give us a rough ethnological boundary, showing how far the colonisation of the country by tribes pressing up it, and it from the Nagar Des extended.—J. M. D.

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Religious Life.

Hindu saints.

127. The local saints are innumerable, many villages having shrines to names never heard of elsewhere; often those of people killed in the village. A few of the most celebrated saints worshipped in the district are mentioned below:—

Miran Sahib was a Saiyid of Baghdad, of whom many wonderful stories are told. He is often said to be the same as *Hazrat Piran Pic* of the Panjab; but this seems very doubtful. He once led a mighty army to battle, and had his head carried off by a cannon-ball during the fight. But he did not mind a hit and went on fighting. Then a wound in one of Raja Tharwa's villages said:—"Who is this fighting without his head?" Upon which the body said—"Hark, hark," and fell down dead, but, as he was going to fall, he said—"What! Am not these villages upside down yet?" Upon which every village belonging to and called after Raja Tharwa throughout the country was turned upside down, and all their inhabitants buried except the Brahman's daughter. The walls are still standing upside down to convince you. *Miran Sahib* was buried in Habri, and is commonly invoked and worshipped by the Nardak people; as also his sister's son Saiyid Kabir. They have a joint shrine called *Mamu-bhanya* (uncle and nephew) in Sunpat.

Lakhda or *Sakhi Sarwar*¹ is a famous Panjab saint chiefly worshipped by Gujars and Rajputs. On *Salwa*, the last day of *Sawan*, the women paint his picture on the wall, and the Brahmans bind a sacred thread on the wrist. He is also called *Lohianwala*, or *Sakhi Sastun*, or *Salawala*.²

Bawa Farid Shakarganj of Pakpattan in Montgomery, is also honoured by the people, and has a shrine at *Ghogriana*, where crowds of people offer to him after the spring harvest.

Beali Kalandar, a contemporary of *Bawa Farid*, is a very celebrated local saint. He used to ride about on a wall at *Buddha Khara*, but eventually settled at *Panipat*. He prayed so constantly that it became laborious to get water to wash his hands with each time; so he stood in the *Jauna*, which then flowed under the town. After standing there seven years the fishes had gnawed his legs, and he was so stiff that he could

(1) He is worshipped on Thursday. On that day no milk should be churned, but drink fresh, given in charity, or offered at *Sarwar's* shrine. Offerings are taken by the *Parhad*.—J. M. D.

(2) The following list of shrines found close to the site of a village some ten miles beyond the Karnal borders in the Ambala district illustrates Mr. Houston's account of the village religions.

Klara ka shra (para. 117).

Mhaura ka shra (para. 117).

Kali Singh ka shra (para. 121).

Bhawa Singh ka shra (para. 121).

Jaur Singh ka shra (para. 125).

Pirga Pic ki murti (para. 125).

Saiyid ka tukar (para. 128).

Jaur Singh is probably Guga's father.—J. M. D.

hardly move. So he asked the Jatana to step back seven paces. She, in her hurry to oblige the saint, went back seven *has* and there she is now. He gave the Panipat people a charm which dispelled all the flies from the city. But they grumbled and said that they rather liked flies; so he brought them back a thousand fold. The people have since repented. He died at Buddha Khara, and there was a good deal of trouble about burying him. He was buried first at Karnal; but the Panipat people claimed his body and opened the grave, upon which he sat up and looked at them till they felt ashamed. They then took away some bricks from the grave for the foundation of a shrine; but when they got to Panipat and opened the box, they found his body in it; so he now lies buried both at Panipat and at Karnal. There is also a shrine to him at Buddha Khara built over the wall on which he used to ride. His history is given in the Ain Akbari. He died in 724 Hijri.

Nangams, or graves of saints said to be 2 yards long, are not uncommon. They are certainly of great length.

Kola Saigid, the family saint of the Kallar Rajputs at Panipat, is a great worker of wonders, and if one sleeps near his shrine, he must lie on the ground and not on a bolster, or a snake will surely bite him. If a snake should, under any other circumstances, bite a man in the Kallar's ground, no harm will come to him.

123. The spirit after death undertakes a year's travels as a *phantom*. But if, at the end of that time, he does not settle down and enter upon a respectable second life, he becomes a *blut*, or if a female, *churli*; and as such is an object of terror to the whole country. His principal object then is to give as much trouble as may be to his old friends, possessing them, and producing fever and other malignant diseases. People who have died violent deaths (called *Gharimard* or *appals*) are especially likely to become *bluts*; hence the precautions taken to appease the Saigids and others in like case with them. In many villages there are shrines to people who have been killed there. Sweepers, if carelessly buried mouth upwards, are sure to become *bluts*; so the villagers always insist upon their being buried face downwards (*munda*), and riots have occurred about the matter, and petitions have been presented to the Magistrate. The small whirlwinds that raise pillars of dust in the hot weather are supposed to be *bluts* going to bathe in the Ganges. *Bluts* are most to be feared by women and children, and especially immediately after eating sweets; so that if you treat a school to sweets, the sweet-seller will also bring salt, of which he will give a pinch to each boy to take the sweet taste out of his mouth. They also have a way of going down your throat when you yawn, so that you should always put your hand to your mouth, and had also better say *Narayana* afterwards.

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Religious Life.

Minor sects.

Ghosts or Bluts.

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Religious Life.

Omens and charms.

129. The people are very observant of omens (*angus*). The following verse gives some of the principal ones:—

*Kagu mīrga dāhina, hūn bīgar ho;
Guyi sampat lahar, jo gerar dāhina ho.*

"Let the crow and the black buck pass to the right; the snake to the left. If a mantis is to the right, you will recoup your losses."

A mantis is called the horse or cow of Ram; is always suspicious, especially on *Dussehra*; and the villager will salute one when he sees it. Owls portend disastrous luck. Black things in general are bad omens (*kasava*); and if a man wishes to build a house and the first stroke of the spade turns up charcoal, he will change the site. On the other hand, iron is a sovereign safeguard against the evil eye. While a house is being built there is always an iron pot (or a ghara painted black is near enough to deceive the evil eye) kept on the works; and when it is finished the young daughter of the owner ties to the lintel of the door a *langra*, consisting of an iron ring (*chhalia*) with other charms, and her father gives her Rs. 1-4 for doing it. Till then the house is not inhabited. The same *langra* is used at weddings and on other occasions. A tail is especially unlucky. Chief among good omens is the dogar, or two water pots, one on top of the other. It should always be left to the right.

Charms are in common use. The *haras* of the *vīras* are especially powerful; and after them, those of the *mangas*. They are hung up in garlands with a mystic inscription on an earthen plate in the middle; and the whole is called a *talka*. The *jand* is another very sacred tree. In illness it is a good thing to have an inscription made on an earthen vessel by a *fakir*, and to wash it off and drink the water. So in protracted labour the washings of a brick from the fort *Chakabai* of Amrit are potent; or, if any body knows how to draw a ground plan of the fort, the water into which the picture is washed off will be equally effective as a potion.

Superstitions.

130. Of course the superstitions of the people are innumerable. Odd numbers are lucky. *Numera Deus inspiri gaudet*. But three and thirteen are unlucky, because they are the bad days after death; so that *ternitas* is equivalent to "all ungood." And if a man, not content with two wives, wish to marry again, he will first marry a tree, so that the new wife may be the fourth, and not the third. So if you tread on a three-year old jute of cowdung you lose your way to a certainty. The preference for the number 5, and, less markedly for 7, is noticeable. An offering to a Brahman is always 1½, 2½, 3, 7½, and so on, whether rupees or sera of grain. The dimensions of wells and parts of wells and their gear, on the other hand, are always fixed in so many and three quarter hands; not in round numbers. The tribal

traditions of the people, and those concerned with numbers and areas, with chief's wives and sons, and with villagers, swarm with the numbers 12, 24, 104, 52, 84, and 360. Hindus count the south a quarter to be especially avoided, for the spirits of the dead live there. Therefore your cooking hearth must not face the south; nor must you sleep or lie with your feet towards the south except when you are about to die. An ancestor is suspicious, as you cannot die for some little time after, so, when a man sneezes, his friends grow enthusiastic, and congratulate him saying *satun jiv*—"live a hundred years," or *Chakpadi*, a name of Devi, who was sneezed out by Brahma in the form of a fly.

It is well not to have your name made too free use of, especially for children. They are often not named at all for some little time, and when named, are often addressed as *baji* or *baji*, according to sex. If a man is wealthy enough to have his son's horoscope drawn, the name then fixed will be carefully concealed till the boy is 8 or 10 years old, and past danger. And even then it will not be used commonly, the every-day name of a Hindu being quite distinct from his real name given in his *jansapatri* or horoscope. At his marriage, however, the real name must be used.

A Hindu will not eat, and often will not grow, onions or turnips; nor indigo, for purple blue is an abomination to him. Nor will a villager eat oil or the black sesame seed, if formally offered him by another; but, if he do, he will serve the other in the next life.¹ Thus if one ask another to do something for him, the latter will reply—"Hya, main us tera kala til chabe hain." "What? Have I eaten your black sesame?" Sacred groves (*lals*) are not uncommon; and any one who cuts even a twig from them is sure to suffer for it.² They exist in some of the villages where wood is most scarce, but are religiously respected by the people. The Baniyas of the tract have a curious superstition which forbids the first transaction of the day to be a purchase on credit. It must be paid for in cash, and is called *bahat*. The age of miracles is by no means past. In 1965 a miraculous bridge of sand was built over the James in this district at the prayer of a *shakir*, of such rare virtue that lepers passing over it and bathing at both ends were cured. A good many lepers went from Karnal to be cured: but the people say that the bridge had "got lost" when they got there.

131. Of course the greater number of the village festivals and the observances appropriate to them are common to all Hindus. But some of them are peculiar to the villages, and a

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Superstitions.

Fairs and Festivals.

¹ In the east of Egypt, and probably in India also, no cucumber will grow just, but he will allow (before a few days) which have by making them, to grow a shape of it on his head. This superstition dies away as one goes westwards, and next to freely grown in Karnal.—J.M.D.

² Trees, too, are often set apart by an oath (*naa karna*). Sometimes they cannot be used for irrigation, and there is too fear of the drinking water falling.—J.M.D.

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Religious Life.

Fasts and Festivals.

Description of them will not be out of place. The ordinary *Diwali* is on the 14th of Kartik, and is called by the villagers the little *Diwali*. On this day the *pitr* or ancestors visit the house. But the day after, they celebrate the great or *Gohardhan Diwali*, in which Krishna is worshipped in his capacity of cowherd, and which all owners of cattle should observe. On the day of the little *Diwali* the whole house is fresh plastered. At night lamps are burnt as usual, and the people sit up all night. Next morning the house-wife takes all the sweepings and old clothes in a dust pan, and turns them on to the dunghill, saying "*dabide dar ho*," *dabide* meaning thrifless, lazy, and therefore poor. Meanwhile the women have made a *Gohardhan* of cowdung, which consist of Krishna lying on his back surrounded by little cottage leaves of dung to represent mountains, bristling with grass stems with tufts of cotton or rag on the top for trees; and little dung balls for cattle, watched by dung men dressed in bits of rag. Another opinion is that the cottage leaves are cattle, and the little balls calves. On this is put the chura-staff and five whole sugar-canes, and some parched rice and a lighted lamp in the middle. The cowherds are then called in, and they salute the whole and are fed with parched rice and sweets. The Brahman then takes the sugar-cane and eats a bit; and till that time nobody must eat, or press, or cut cane. Parched rice is given to the Brahman; and the bullocks have their horns dyed, and get extra well fed.

Four days before the *Diwali*, or on the 11th of Kartik, is the *Dvautheni Gyara*, on which the gods wake up from their four months' sleep, beginning with the 11th of Sarh, and during which it is forbidden to marry, to cut sugar-cane, or to put new string on to bedsteads on pain of a snake biting the sleeper. On the night of this day the children run about the village with lighted sticks and torches. On the 10th and 11th of Phagan the villagers worship the *amla* tree or *phyllanthus emblica*, mentioned by Huen Tsang as being so abundant beyond Dehli. This tree is the *mallic myrobalan*, a representation of the fruit of which is used for the final of Buddhist temples. Its worship is now connected with that of Shiva; Brahmans will not take the offerings. The people circumambulate the tree from left to right (*pridapama*), pour libations, eat the leaves, and make offerings, which are taken by the *Kanphata Jogis*. Fasts are not much observed by the ordinary villager, except the great annual *Faste*; and not even these by the young man who works in the fields, and who cannot afford to fast. *Gur*, flour made from singhara or water caltrop, from the *sunaw* grain, wild swamp rice, the seeds of cockabomb (*chawal*), and milk, in fact almost anything that is not included under the term *raj* or grain, may be eaten on *faste*; so that the abstinence is not very severe.

Karnal Mission.

182. The Karnal Mission is connected with the Society for the Propagation of the Gospel in Foreign parts, and is a

branch of the Delhi Mission. The Mission was begun in Karnal in 1855, and work is also carried on in Panipat and Keithal. The staff consists of 2 Zangana Missionaries, 1 Medical Missionary and her assistant, and 3 Christian teachers in girls' schools and Zanganas. There are also 1 native clergyman and 3 readers. The operations of the Mission include Zangana teaching, girls' schools, and a Hospital and Dispensary for women and children. 5,257 cases were attended in 1896. There is also a small school for the sons of Moslems, and a shop for the sale of religious and secular books. The number of Native Christians is men 7, women 6, children 13, total 25.

Chapter III, D.

Tribes and Castes.

Karnal Mission.

SECTION D.—TRIBES AND CASTES.

133. Table No. IX gives the figures for the principal castes and tribes of the district, with details of sex and religion, while Table No. IXA shows the number of the less important castes. It would be out of place to attempt a description of each. Many of them are found all over the Panjab, and most of them in many other districts, and their representatives in Karnal are distinguished by no local peculiarities. Some of the leading tribes, and especially those who are important as land-owners or by position and influence, are noticed in the following sections; and each caste will be found described in Chapter VI of the Census Report for 1891. The Census statistics of castes were not compiled for *lokats*, at least in their final form. The figures for the chief tribes in the Indus *parwana*, which were compiled from the Census papers at the recent settlement, are given below:—

Statistics and local distribution of tribes and castes.

LAND-OWNING TRIBES.		OTHERS.	
Rajput	13,329	Kaula	4,451
Ror	9,350	Chamar	3,430
Brahman	6,101	Chadras	2,563
Jat	7,202	Tel. Kumbhar,	10,232
Kamboh	5,127	Badhi, Kabot	

The proportion of the total area owned by the 5 tribes shown in the first column is:—

Rajputs	32 per cent.
Ror	17 1/2 "
Jats	15 1/2 "
Kambohs	4 1/2 "
Brahmans	4 1/2 "

Of course many Brahmans own little or no land. The chief

Chapter III. D.

Tribes and
Castes.

Former Inhabitants.

landowners in Kaithal are Jats (42 per cent.), Rajputs (22 per cent.), Bors (8 per cent.), and Gajars (7 per cent.)

104. The Tagas are probably the oldest of the existing inhabitants of the tract; they originally held a great part of the Khadir, and now hold most of *purgana* Giamur; and as, wherever the river has not passed over the land within recent times, Tagas are still in possession, it is not improbable that they were driven from much of their old territory by changes in the Jamna. The Rajput bards and the traditions of the people tell us that in old days Chandel Rajputs held Kaithal and Samana, and had local head-quarters at Kohand, whence they ruled the neighbouring portion of the tract. The Barch Rajputs held the country round Asandh, Salsdon, and Salwan; while the Pandira held Thanesur and the Nardak, with capitals at Pandri, Habri, Pandrak, and Churangark (Churni), which last must once have been a position of great importance, as it is situated on a great bend on the old bank of the Jamna. The Mandhar Rajputs came from Ajudhia, and, settling in Jindh, expelled the Chandel and Barch Rajputs and took possession of their country, the former going towards the Siwalike, and the latter beyond the Ghagar. The Mandhars fixed their capital at Kalayat in Patiala, whence they settled the local centres of Asandh, Salsdon, and Gharanda.

The Pandira were expelled by the Chauhan Rajputs from Sambhal in Muradabad under the leadership of Rana Har Rai, and fled beyond the Jamna. The Chauhans made Jundla their head-quarters, and held a great part of the Nardak, and also large possessions in the Doab. The Tanwar Rajputs originally held Panipat and the country round, but would seem to have been dispossessed by Afghans in the early days of the Muhammadan conquest. The old boundary of the Tanwars, Chauhans, and Mandhars in Kaithal used to meet in Pal (now a Jat village). Pal belonged to the Mandhars. Habri to the east was and is a Chauhan village, and Mandri, which is now a Ror village, was Tanwar. The Tanwars also held Khurana, Phard, and Baudiput, in which last they had a large fort. Probably the Tanwars once held the whole Nalli tract and were turned out of part of it by Mandhars. They now hold the Bet of the Markanda in Azbala and a number of estates in the Pehowa *purgana* of Kaithal. Outside Pehowa their only possession in Kaithal is the large village of Phard. They still own a section of the town of Panipat. The country of the Tanwars or Tuhars is popularly known as Toharwara. The Chauhans either alone or in conjunction with their former dependents hold six or seven villages round about Habri. The Chauhan and Mandhar traditions are given in greater detail in *paras* 143—144.

The Rajput chiefs (Ranas and Rains) would seem, subject to the payment of tribute to Delhi, to have enjoyed almost independent authority up to the time of the consolidation of the Mughal Empire under Akbar, or even later; and succeeding the

Rajput was a favourite occupation of the old Afghan Emperors. Their degradation to the position of mere village chiefs is attributed to Aurangzeb, who forcibly converted many of them to the Mahomedan faith.

In the Ain Akbari the principal castes of pargana Karnal are stated to be Raughars and Chauhans; the word Raughar, now used for any Mussalman Rajput, being probably applied to the Mundhars, many of whom had adopted Islam. Those of pargana Panipat are given as Afghans, Gajars, and Raughars. The surrounding castes were Tagas in Gennar; Afghans and Jats in Sonpat; Jats in Kutana; Rajputs, Raughars, and Jats in Basidon; Raughars, in Pandri; Raughars and Jats in Rahri; and Raughars and Tagas in Indri. The Pandits held Bhatinda, and the Barahs the country about Samana. Mr. Isherton writes in his Settlement Report of *lahiri* Panipat and pargana Karnal:—

"Local tradition has enabled me to make a rough approximation to the tribal distribution at the time of the Ain Akbari (1590 A.D.) and I give it in Map No. V. I think some reliance may be placed upon the general features of the map. In some cases the descendants of the former inhabitants still periodically visit the shrines existing on the old ancestral site; and in particular, tombs in the namistakashi architecture of the Afghans tell every tale and those of people who have now disappeared. It will be observed that Afghans then held a large part of the lower Khadir. They had also formerly held a good deal of the Bangar, which was occupied at the time we speak of by Gajars. At present there is only one Afghan village, headen pur, of the city of Panipat, in the whole tract; and I think the total disappearance of this caste must be accounted for by changes in the river. It is to be noticed that they have been replaced very largely by Gajars; and I do not think Gajars were ever in a position, as Jats most undoubtedly were, to acquire territory by conquest in this part of the country, especially from Afghans. I cannot help thinking it probable that the Afghans left their Bangar villages for the more productive Khadir soil as it was left available by changes in the river; and that they were again, after the time of Akbar, driven out by the branch of the Jamna already mentioned as sweeping over the parts held by them. The parts near Bahasahra and Barana have, as I have already pointed out, escaped river action altogether in recent times, and are still largely occupied by the original Taga inhabitants. But in the intermediate parts of the Khadir the people have only been settled for some eight generations, which, at the usual Indian estimate of 25 years for a generation, would bring their first arrival well this side of the date of the Ain Akbari."

The Gajars were, as usual, intimately connected with the Rajputs, and were for the most part settled by them in portions of their territory. The Gajars who originally held the country about Naraina were Chokar Gajars; those about Setana and Nain were Chamunas; while those of Kahan and Bapanli were Rawals. The two first clans have been largely replaced by Jats and Bors; while the last has spread over the parts of the Khadir formerly occupied by Afghans.

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Former inhabitants

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Castes.Local organization
of the tribes.

135. The primary sub-division of the tribes is into *thapas* or *thamhas*. A tribal community having obtained possession of a tract, in course of time it would be inconvenient for them all to live together, and a part of the community would found a new village, always on the edge of a drainage line from which their tanks would be filled. This process would be repeated, till the tract became dotted over with villages all springing originally from one parent village. The people describe the facts by saying that, of several brothers, one settled in one village and one in another; but this no doubt means that the parts of the community that migrated consisted of integral families or groups of families descended in one common branch from the ancestor. In this way were divided the many villages known by the same name, with the addition of the words *kalan* and *thard*, big and little. This by no means implies that *kalan* is larger than *thard*, but only that the older branch settled in *kalan*. The group of villages so bound together by common descent forms a *thapa*, and sub-feudal ties are still recognized, the village occupied by the descendants of the common ancestor in the eldest line being, however small or reduced in circumstances, still acknowledged as the head. To this day, when a husband dies, the other villages of the *thapa* assemble to install his heirs, and the turban of the parent village is first tied on his head. When Brahmans and the brotherhood are fed on the occasion of deaths, &c., (suffer), it is from the *thapa* villages that they are collected; and the Brahmans of the head village are fed first, and receive double fees. So among the martial castes, which still retain an internal organization of far greater vitality than the higher castes now possess, the representative of the head village is always the foreman of the caste-jury which is assembled from the *thapa* villages to hear and decide disputes. In old days the subordinate villages used to pay some small *chawlthroyat* to the head village on the day of the great *Divali*. The head village is still called "great village," the "turban village," "the village of origin," or "the *thika* village," *thika* being the sign of authority formerly impressed in old days on the forehead of the heir of a deceased leader in the presence of the assembled *thapa*: Mr. Ibbetson says—

"In one case a village told me that it had changed its *thapa*, because there were no many Brahmans in its original *thapa*, that it found it expensive to feed them. I spoke to the original *thika* village about it, and they said that no village could change its *thapa*. 'Pai khandi khatia; mayar nu kama nahin khati.' 'A son may forget his kinship, but not a mother her motherhood.'"

Admission of strangers into the tribal organization.

136. But the *thapa* is not wholly confined to the original tribe which founded it. A man without sons often settled his son-in-law in the village as his heir; and as the clans are exogamous, the son-in-law was necessarily of a different family. So, too, a man settled a friend by giving him a share of his

land. The strangers so admitted have in many cases separated their land off into separate villages; but just as often they still live in the old village, and in some cases have overshadowed the original family. It is curious to note how the fiction of common descent is, even in these cases, preserved, as has been so well insisted upon by Maine. The man who thus takes a share of another's land is called *khambhai*, or "earth-brother;" and if a landowner of a clan other than that of the original owners is asked how he acquired property in the village, his invariable answer is "*bhai barta bhaiya*," "they settled me as a brother."

But it is not only by fictitious relationship that strangers have obtained admission into *thapas*. In some cases the pressure of the troublous times which were so frequent in former days has induced two weak groups of adjoining villages to unite for common defence. And still more frequently, people settled originally as cultivators have, by the lapse of time or by the dying out of the original owners, acquired proprietary rights. Village boundaries were before our times by no means so well defined as they are now, as is shown by the boundaries often zig-zagging in and out of adjoining fields held by different villages, and by contiguous villages sometimes having their lands intermixed. Boundaries, where they lay in uncultivated land held by villages of the same tribe, were probably almost unknown; for even now the cattle graze in such cases almost independent of them.

It was, and is still, a common custom to settle cultivators in a small outlying hamlet (*garhi* or *mafiya* or *dhari*) in the village area to cultivate the surrounding land; and the old maps and papers show that it was very much a matter of chance whether, when we made a survey and record of rights in land, these were marked off as separate villages or not. It will be shown in the succeeding section of this chapter that we confused cultivating possession and consequent liability for revenue with proprietary right; and, when these small hamlets were held by cultivators of a different caste from those of the parent village, they were generally marked off and declared to be their property. This is particularly the case with *Rors*, many small villages of which caste are dotted about among the Rajputs of the *Kardak* of *pargana* Karnal. These were originally small communities settled by the Rajputs as cultivators in their land to assist them to bear the burden of the Government demand. The *Rors* in *Panipat* have, almost in every instance, been similarly settled by former *Gujar* inhabitants, of whom a few families still remain in many villages as the sole representatives of the old owners. Brahmins too have acquired land in many villages by gifts made in the name of religion. Where the Sikhs got a strong hold of the country, they followed their favourite policy of carving out new estates in the waste of the older villages

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and settling them with low class but industrious cultivators, and in this way the *thapa* organisation was weakened.

137. The *thapas* above described are those based upon tribal organization, and are still recognized by the Rajputs and more or less by the people generally. But the Imperial revenue system, in adopting the tribal *thapa* as one of its units, somewhat modified its constitution. The revenue was primarily assessed and collected by the local amil, an Imperial authority. But he worked principally through the *chaudhries* or local heads of the people, who represented large sub-divisions of the country, based, as far as possible, upon tribal distribution. These *chaudhries* existed in old days at Jundla, Panipat, Hala and other places, and received an allowance called *ambat* in consideration of the duties they performed. They again worked almost entirely by *thapas* the assessment being fixed for a whole *thapa*, and being distributed over the constituent villages by the headman of the villages, presided over by those of the *ika* or chief village. These revenue *thapas* coincided generally with the tribal *thapas*; but they occasionally varied from them from considerations of convenience. Old *pargana* Panipat contained 16½ *thapas*, half Jaurasi having been separated by Farrukhsir, as stated in Chapter III.

Division of tribes
into clans, castes,
and sub-castes.

138. The above remarks apply to the territorial organization of the tribes. But the internal organization of the tribe is still more important as bearing upon its social relations. The tribe as a whole is strictly endogamous: that is to say, no Jat can, in the first instance, marry a Gujar or Kor, or any one but a Jat and so on. But every tribe is divided into clans or *gotas*; and these clans are strictly exogamous. The clan is supposed to include all descendants of some common ancestor, wherever they live. Mr. Robertson writes:—

"I have had some doubts whether many of the clans do not take their present names from the places from which they have spread. But I think the reasons against this theory are, on the whole, conclusive; and that the similarity of names, which not very infrequently occurs, is owing to the village being called after the clan, and not the clan after the village. Of course local nick-names (at, by, &c.) are often given, and these may in some cases have eventually obliterated the original clan name."

Traces of phratries,* are not uncommon. Thus the Mandhar, Kandhar, Bargujar, Sankarwal, and Panihar clans of Rajputs sprang originally from a common ancestor Loo and cannot intermarry. So the Deswal, Man, Dalal, and Siswal clans of Jats, and again the Musal, Sual, and Rokwal clans of Rajputs, are of common descent, and cannot intermarry.

The fact that many of the clans bear the same name in different tribes is explained by the people on the ground that a

* "The phratry is a brotherhood, or the term *imphra*, and a natural growth from the organisation into *gotas*. It is an organic union or association of two or more *gotas* of the same tribe for certain common objects. These *gotas* were usually such as had been formed by the segmentation of an original *got*."—*Morgan's Ancient Society*, page 84.

Bachhas Rajput, for instance, married a Gujar woman, and her offspring were called Gujar, but their descendants formed the Bachhas clan of Gujar. This sort of tradition is found over and over again all over the country; and in view of the almost conclusive proof we possess that descent through females was once the rule in India, as it has been probably all over the world, it seems rash to attribute all such traditions merely to a desire to claim descent from a Rajput ancestor. It would appear that there are actually Rajput clans existing, spring from Bhat, Brahman, and Carpenter fathers and Rajput women. At present the offspring of a mixed connection (marriage proper is impossible) take the caste of the father; but those of the pure blood will not intermarry or associate with them. Some traces of totemism are still to be found; and, as gentile organizations have almost always been closely connected with totems, it is probable that further inquiry, and especially an etymological examination of the names of the clans, would greatly extend their numbers. This also would account in many instances for clans in different tribes bearing the same name. Thus, the Jaglan Jats worship their ancestor at a shrine called *Jadh*, which is always surrounded by *kain* trees, and if a woman married in a Jaglan family passes a *kain* tree, she will cover her face before it as before an older relation of her husband. Again, the Mar Jats will not burn the wood of the cotton plant.

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Division of tribes into tribes, exogamy and endogamy.

139. Every clan is exogamous; that is, while every man must marry into his own tribe, no man can marry into his own clan. But this is by no means the only limitation imposed upon inter-marriage. In the first place, no man usually marries into a family, of whatever clan it may be, that is settled in his own village or in any village immediately adjoining his own. The prohibition is based upon "*sinjar ki bacadari*," or the relationship founded upon a common boundary, and is possibly a survival from marriage by capture. The old rule is becoming less rigid, especially among Mussulmans, but two social reasons continue to strengthen its vitality:—(1) There is the importance of marrying your daughter where you can get grazing for your cattle in seasons of dearth. For instance in Kathal Jats of the Bangar and Jats of the Nall intermarry with advantage to both sides. (2) There is the important object of getting rid of your father-in-law. If you live near him your wife always wants to visit her parents, and her filial promptings lead to expense and inconvenience. This limitation on inter-marriage with neighbours is further extended by the Rajputs, so that no man of them can marry into any family living in the *thapa*, into any family of which his father, grandfather, or great-grandfather married.¹ Thus, if a Manihar Rajput

Exogamy among the clans.

(1) In India the Gleaners say they avoid their own house and get (Machhar) and also their maternal grandfather's (Machhar) in marriage. The restrictions as regards inter-marriage between members of the same got appear to be breaking down. The Manthars of Kathal avoid their own tribe and maternal grandfather's thanda.—J.M.D.

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married a Chaudhan Rajput of the Jundla, his son, grandson, and great-grandson would not be able to marry any Chaudhan of any village in the Jundla *thapa*. But beyond this, and the prohibition against marrying within the clan, the Rajputs have no further limitations on inter-marriage. Among the other castes the *thapa* is not excluded; but no man can marry into any family of the clan to which his mother or his father's mother belongs, wherever these clans may be found.¹ The Gujars, however, who are generally lax in their rules, often only exclude such persons of these clans as live in the individual village from which the relation in question came.

140. Broadly speaking, no superior tribe will eat or drink from the hands or vessels of an inferior one, or smoke its pipes, but the rule is subject to exceptions, which are noted in para. 229 of Mr. Robinson's Settlement Report.

Jats, Gujars, Rors, Rabbaris (a camel grazing caste), and Ahirs (a shepherd caste) eat and drink in common without any scruples, and they need to smoke with carpenters, but are coming to do so. Musalmans have lately become much less strict about these rules as governing their intercourse among themselves, and many of them now eat from any respectable Musalman's hand, especially in the cities. And, subject strictly to the above rules, any Musalman will eat and drink without scruple from a Hindu; but no Hindu will touch food from any Musalman, and will often throw it away if only a Musalman's shadow falls upon it, partly perhaps because Musalmans eat from earthen vessels, which no Hindu can do unless the vessel has never been used before. Brahmins and Rajputs will not eat from any one below a Jat, Gujar, or Ror; while these three tribes themselves do not, as a rule, eat or drink with any of the menial castes; and the following castes are absolutely impure owing to their occupation and habits, and their mere touch defiles food:—leather-maker, washerman, barber, blacksmith, dyer (*akhimp*), sweeper, *dum*, and *shanak*. The potter is also looked upon as of doubtful purity. The pipes of a village, being often left about in the common rooms and fields, are generally distinguished by a piece of some thing tied round the stem—blue rag for a Musalman, red for a Hindu, leather for a *chanar*, string for a sweeper, and so on so that a man wishing for a smoke may not defile himself by mistake. Gur and moist sweetmeats can be eaten from almost any body's hand, even from that of a leather-worker or sweeper, but in this case they must be whole, not broken.

The Dohia and
Hauzania factions.

141. There is a very extraordinary division of the non-Rajput tribes in the Karnal *paragana* and Panipat and the neighbouring parts of Dehli and Rohtak into the two factions

(1) Jats and Gujars of Karnal and Dehli and Rors of Dehli are all in marriage the sons of (1) father, (2) mother, (3) father's mother, (4) mother's mother. But many of the Rohtak Rors will marry girls belonging to the same got as their maternal grandmother.—J. M. D.

(Jhatp) of Dohia and Haulania, respecting the origin of which no very satisfactory information is forthcoming. The Dohias are called after a Jat clan of that name, with its head-quarters about Bhatgaon in Sonapat, having originally come from Hawana near Delhi. The Haulania faction is headed by the Ghatwal or Malak Jats whose head-quarters are Dhar ka Alulada in Gohana, and who were, owing to their successful opposition to the Rajputs, the accepted heads of the Jats in these parts (see para. 145). Some one of the Emperors called them in to assist him in coercing the Mandhar Rajputs, and thus the old enmity was strengthened. The Dohia Jats, growing powerful, became jealous of the supremacy of the Ghatwals, and joined the Mandhars against them. Thus the countryside was divided into two factions; the Gujars and Tagas of south Karnal, the Jaglan Jats of *thapa* Nautila, and the Latmar Jats of Rohtak joining the Dohias; the Huda Jats of Rohtak, and most of the Jats of the southern half of the district except the Jaglans, joining the Haulanias. In the mutiny disturbances took place in the Rohtak district between these two factions, and the Mandhars of the Nardak ravaged the Haulanias in the south of the tract. And in framing his *saifi* the Settlement Officer had to alter his proposed division so as to separate a Dohia village which he had included with Haulanias, and which objected in consequence. The Dohia is also called the Jat, and occasionally the Mandhar faction. The Jats and Rajputs seem, independently of these divisions, to consider each other, tribally speaking, as natural enemies; and one is often assured by Jats that they would not dare to go into a Rajput village at night.

142. In describing the principal tribes of the district, we will begin with the Rajputs. It is hardly necessary to say much about their well-known tribal characteristics. They are fine, brave men¹ and retain the feudal instinct more strongly developed than any other non-menial caste, the heads of the people wielding extraordinary authority. They are very tenacious of the integrity of their communal property in the village land, and seldom admit strangers to share in it. They are often lazy and always proud, and look upon manual labour as derogatory, much preferring the care of cattle, whether their own or other people's. In the canal and Khadir *paria* they have abandoned pastoral for agricultural pursuits; but even here they will seldom, if ever, do the actual work of ploughing with their own hands; while the fact that their women are kept strictly secluded deprives them of an invaluable aid to agriculture.² In the Nardak a great part of the

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The Dohia and Haulania factions.

The Rajputs.

(1) It is a pity that efforts are not made to enlist Rajputs from the Nardak in our regiments. The Mariana Rajputs of Meer are often found in the army, but Karnal as a recruiting ground is almost barren, probably because no attempt is made to work it.—J.M.B.

(2) The poor cultivation in many Rajput *estates* is largely due to the fact that the men have to do much out-door work, apart from actual field work, which in a Jat village would be done by women.—J.M.B.

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The Rajputs.

actual work of cultivation is done by other castes. They are, of course, cattle-stewards by ancestral profession; but they exercise their calling in a gentlemanly way, and there is certainly honour among Rajput thieves. Muslinman Rajputs are called *Kanghars* by other castes and *Chotikars* by their Hindu brethren, from *choti*, the Hindu sculp-lock, which the Muslinman does not preserve. But both terms are considered abusive, especially the latter. The principal clans are the Chauhanas and the Mandhars.

The Mandhar legend.

143. The Mandhars were settled in very early days in the country about Samana; for Piroz Shah chastised them, carried off their kamas to Delhi, and made many of them Musalmans. The Sakidra branch obtained the villages now held by them in the Nardak in comparatively late times by inter-marriage with the Chauhanas. And though they expelled the Chandel Rajputs from Kohard and Gharanada when they first came into these parts, yet the Chandels re-conquered them; and the final occupation by Mandhars coming direct from Kalayat in Patiala is possibly of comparatively recent date.

The *Jaga* (bard) of the Rajputs come every three or four years from Jaipur and record the births that have occurred in Rajput families since their last visit. According to Bakhtawar, the Mandhar Jaga, the Mandhars are descendants of Lakhtamar, son of Ramchandra, who was adopted by his uncle Lachhman. The descendants of Lak ruled successively in Garh Gwahar, Nizamarpur, Ajulhia, Bijnur, Kachwaghana, and Kamapahari. Raja Jau left Kamapahar and came to take in Karkabotra. At a birth near Jindh his wife bore a son Jindhra, who afterwards in S. 891 founded Jindh. His grandson Sudh took Kaithal from the Chandel Rajputs in S. 1008. Sudh began Bampur, who begot 3 sons Kalla, Kala, and Mampuraj. Kalla settled in Kalayat, Kala in Rajaundh, and Mampuraj in Kaithal. Kalla's son Rana Gurkha stormed the 3 forts of Asanah, Sadulan, and Salwan, expelling the Byrah Rajputs and settled in Asanah in S. 1131 (the bard then proceeds to give a list of the various descendants of Rana Gurkha, and the villages which they founded). By popular tradition the Mandhars held 300 kharas or villages between Kalayat and Gharanada, many of which are now held by Jata. The Jaga says nothing about any struggles between the Mandhars and Tanwars, but the latter, as noted in para. 134, were probably pushed back out of part of the Sarauti Nali by intruding Mandhars.

The Chauhan
legend.

144. The Chauhanas are all sprung from the original people who settled at Jaulna. They all claim descent from Rana Har Rai and it is probable enough that the oldest line, in which authority descended from Rana Har Rai, has been preserved in its integrity. According to this, 19 generations, equivalent to 475 years, have intervened since the Chauhan conquest, which would fix it at about the time of Bahlol Lodi.

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Custom.The Chaubans
legend.

The Chaubhan tradition as told by the tribal bard first relates the famous legend of the birth of the Chaubhan (one of the 4 varnikula classes) from the Agnikul at Mt. Abu. The story is given at full length in the 7th chapter of Tod's *Rajasthan*. The conquest of these parts by the Chaubhans is said to have been effected by Rana Har Rai. The Rana who had been bathing in the Ganges returned through the sacred Kurukshetra then held by Pandira, who had 4 forts, Habri, Pandri, Pundrak, and Churungarh. A quarrel arose between Rana Har Rai and the Pandirs. In 8,331 he fixed his head-quarters at Jundla, which he founded, naming it Jundla on account of the number of good trees which grew round it. Rana Har Rai conquered Habri, Pandri, and Pundrak, but had to call in his uncles Dala and Jagar to assist him in storming Churungarh (Chorai), where the Pandirs made a last stand, before they were driven to the east of the Jumna, where they now live. Dala got 48 villages including Sandhir, Jagar 12, and Pijora, the son of a Brl uncle, 24 villages including Mathia and Tawthal. Rana Har Rai married 2 Rajput wives and 6 wives of inferior tribes, a Rorai, a Jatuli, a Jogin, a Nain, and a Gajari. The Rorai, Amin and Rarpari, who belong to the Dupla got, are his descendants by the Rorai wife. The descendants of the Jat and Gajari wives appear to have settled to the east of the Jumna. The Rajputs of the Munatabad parpans in Jagadhri have sprung from the Jogin and Nain wives. The sons by Rajput women founded various villages, Kalia settling in Karnal and Kaum in Habri. The Chaubhans of Piphi, Jagadhri, and Naraingarh are also descended from Rana Har Rai. The Chaubhans of Karnal are all of the Bachekias got. Chaubhans will take the daughters of Pandira for their sons, but they will not give their own girls to Pandira. They are a fine race, and they are not all bad cultivators, and those who are may not always continue so. The Chaubhans of Padhana, who were described at the first regular settlement as being notorious for committing robberies on the Grand Trunk Road, now cultivate their lands with the greatest diligence and success. The Karnal Rajputs are a proud race, whom the rule of the Sikhs and our own have robbed of much of their ancestral power. They are much hampered by unchangeable tribal customs and find it hard to adapt themselves to the altered conditions of life. But it is worth our while to treat them with patience and consideration and to carefully preserve the remains of a local influence, which is still considerable.

145 The Jats are pre-eminently the agricultural caste of the tract and, with the exception of the Rorai and Kamthas, and of the Raths and Malis who are practically market gardeners, are the best cultivators. A Jat, when asked his caste, will as often answer "*masimbar*" as "*Jat*." They are a fine stalwart race. Mr. Holsen measured one at Didwari 6 feet 7 inches high and 42½ inches round the chest. They are notorious for their independence, acknowledging to a less degree than any other caste the authority of their headmen.

The Jats.

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Castes.

The Jats.

They hold several tribal groups of villages; but they also own parts of villages almost all over the tract save in the Gujrat and Rajput portions. The Kaithal Bangar and Andarwar and the tracts in the same *tahsil* flooded by the Umla and Ghagar are almost purely Jat settlements, and they own about $\frac{2}{3}$ ths of the Powadh Circle, where many of them are Sikhs by religion. They seem to have held parts of the country about Samana in very early days, and, as already noted, that part certainly formed a part of an early Indo-Scythian kingdom. The Jats of the District seem to have come partly from the Bagar, where they were in force 700 years ago. In no case have Jats settled from across the Jamna. The Jats are not mentioned as a prominent caste of the tract in Akbar's time, and probably gained a footing during the breaking up of the Moghal dynasty, when they became an important element in the politics of the time. The Jats of the tract are almost without exception Hindus. Those who have become Mussulmans are called *Mula Jats*, and are only found in two or three villages; and there even are only individual families, generally said to be descended from hostages taken in infancy by the Mussalman rulers and circumcised by them. The principal clant are as follows:—

Jaglan, sprung from Jagla, a Jat of Jaipur, to whom there is a shrine in Israna at which the whole *thapa* worships. They hold the 12 villages (*barph*) of *thapa* Naukha, and come from Ludas, in Sirsa or Hisar.

Ghanghas, sprung from an ancestor called Badkal, whom they still worship, and who has a shrine in Puthar. They hold the *thapa* of Mandi, and come from Dhannas near Bhiwani, in the Bagar.

Ghatwal or *Malak*, tracing their origin from Garh Ghazni, and holding Bawana, whether they came from Ahluana in Gohana. They hold Ugra Khari and the villages settled from it, and are scantily represented in this district. In the old days of Rajput ascendancy the Rajputs would not allow Jats to cover their heads with a turban, nor to wear any red clothes, nor to put a crown (*mar*) on the heads of their bridegrooms, or a jewel (*nath*) in their women's noses. They also used to levy seigniorial rights from virgin brides. Even to this day Rajputs will not allow inferior castes to wear red clothes or ample loin clothes in their villages. The Ghatwals obtained some successes over the Rajputs, especially over the Mandhars of the Deob, near Deoban and Manglaur, and over those of the Bagar near Kalansur and Dadri, and removed the obnoxious prohibitions. They then acquired the title of *Malak* (master) and a red turban as their distinguishing mark; and to this day a Jat with a red pagri is most probably a Ghatwal.

Dereal, who hold Korur, Madlauda, Ataola, Mahauti, and other villages, and came from Rohtak, where they have their head-quarters in the village of Mandauthi.

Kathhar or *Gahlar*, perhaps the most powerful Jat clan in the tract, holding the 12 villages (*barah*) of Jaurasi. They came from Mot Pali in Hissar.

Sandhus worship Kala Mehar or Kala Pir their ancestor, whose chief shrine is at Thana Satra in Siolkot, the head-quarters of the Sandhus. They hold Gaggina, Khutpara, and other villages; and have come here via Phul Maharaj in Patna.

Malawat, who hold Bahail and other villages, and came from Dighal in Rohtak. They worship a common ancestor call Sada Deh.

The chief remaining clans are shown below:—

No.	Clan.	Head-quarters.	Place of origin.
1.	Jou	Karion and Birazon	Dehli.
2.	Bethi	Masana and Bal Jatan	Behndungerh in Rohtak.
3.	Bahrawat	Karban, Patri	Dehli or its neighbourhood, via Rohtak.
4.	Kharab	Nara	Dehli, via Khari Khori in Hauri.
5.	Narwal	Wahar and Khori Nara	Kaithua in Rohtak.
6.	Nundai	Dahar, &c.	Behar in Rohtak.
7.	Dehia	Hissar	Behar in Rohtak.
8.	Khadu	Shahpur Kayuth (Rohtak)	Tarauti in Rohtak.
9.	Kali Ramani	Padie, Barah, and Balana	Gark Ghawal, via Sirsa; Patna (Pak Padai); Garhwal, Rawar, in Rohtak; and Koul, near Bhiwani.
10.	Phor or Dhalwal	Dhausanli	Gark Ghawal, via Dholi thaps near Lahore.
11.	Mah	Bala and Ghogripur	Bhatinda in Malwa, via Gaur, Khora beyond Hissar.
12.	Balsiwal	Kari, Bhobpara	Bhadra Ghari, near Bikanir, via Bhatik in Kaithal.
12.	Rukst	Dehli, &c.	Bhiwani.
13.	Nalu	Bhalai, Bal Jatan	Bighar in Bikanir. Marry to Kasandhu (Rohtak) and Jind.
14.	Lathar	Phogarkh	Kasandhu in Jind.
15.	Kadina	Siwa	Chimni, near Beri in Rohtak, via Rajana in Sonpat.
17.	Dahan	Shahmadpur	Salwa in Kaithal.
18.	Dhaundhak	Bhepant	Marry to Jai in Changanw of Rohtak.
19.	Kalhar	Dabkandi	Claim to have been originally Talwar Rajputs from Dehli.
20.	Eira	Chika	...
21.	Dhod	Pai	...
22.	Nor	Chhatar	...

140. The Gujars are a notorious thieving tribe; and, as a rule, their cultivation is of the most slovenly description, though in many of the Khadir and canal villages they have really applied themselves in earnest to agriculture. They have a habit of breaking up far more land than their numbers

(1) There are exceptions. Koorak, the chief Gujer estate in Kaithal, is very well cultivated.—J.M.D.

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and appliances can properly cultivate; and though their women will go to the well, bring food to the workers in the field, pick cotton, and do other light work, yet they will not open or do any really hard labour in the fields like the Jat women. The difference between a Gujar and a Rajput, thus was well put by a villager as follows:—"A Rajput will steal your buffalo, but he won't send his father to say he knows where it is and will get it back for Rs. 20, and then keep both the Rs. 20, and the buffalo. The Gujar will." The local opinion of the Gujar is embodied in the proverb—

<i>Kutta, billi do.</i>	|	<i>Yeh char un ho,</i>
<i>Banghar, Gujar do;</i>	|	<i>To khata kharu so.</i>

"The dog and the cat, two; the Banghar and Gujar, two. If it were not for those four you might sleep with your door open." Again, "*Little dabba Gujar, ille dogie mar;*" or "wherever you see a Gujar, beat him." The Gujars are, like the Rajputs, singularly unwilling to admit strangers to property in their villages. They are closely allied with the Rajputs; and their possession of parts of the Bangar was probably contemporaneous with that of the Mardhars, parts of whose conquests, such as Kohand, were given them. But in the Khadir they have succeeded Afghans in comparatively recent times, save in a very few old villages. There is a small group of Gujar villages to the S.W. of the town of Raurhal, including the important estate of Keoruk. The principal clans are:—

Rawal.—This clan claims descent from a Rajput called Dhunpal from beyond Lahore, who married a daughter of a Gujar called Ghokar. It is part of the Ghokarbani clan, and takes its specific name from Rana Saran near Lahore. In one village they say that the ancestor was a Khokhar Rajput, and this is probably the better form of the tradition. They settled in Rana Khara, (now Rajapur), but moved thence to Kabri and Kohand, where they held a *barah* of 12 villages; and they also held Bopauli, whence they eventually settled the 27 villages (*chambis*) of the Khajipur *thapa* in the Khadir. They still hold the Khadir villages; but have lost most of those near Kohand.

Ghokar.—This clan comes from Jowar *thapa*, beyond Mathra, *via* Bali Kurpur, in Sagar. They used to hold a *chambis* (24 villages) with Namanunda their head-quarters, and are probably very old inhabitants. They have been to a great degree displaced by Jats.

Chamais.—This clan claims descent from a Punwar Rajput by a Gujar mother; and the real gentile name is said to be Punwar, Chamais being only a local appellation. They came from Dohal and settled in Nain and Satana and the neighbouring villages; and are certainly very old inhabitants, very

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possibly having emigrated when expelled from the neighbourhood of Delhi by Sher Shah a few years after the Chauhan settlement. They have been largely dispossessed by Rors.

Kulra.—This clan claims descent from Rana Har Rai, the Chauhan of Jaundia, by a Gujar wife. They had given them a part of his conquests in the Doab, where they are still in great force, and they hold a little land in the Chauhan Nardak.

147. No satisfactory information whatever is forthcoming as to the origin of the Rors. Some of them say they were originally Rajputs settled in Sambhal Miradabad, but expelled their tribe when Paraga Rana persecuted the Khichariyas, and migrated to Radli, a part of one of the ancient Delhis, and now represented by Radli ka Sarai. The motive of the story is to claim kinship with the Chauhans, and the Chauhan legend admits the descent of the Rors of Amra, &c., from Rana Har Rai. Others again seem to trace their origin from Radli near Jhajjar. The Rajputs say the Rors were originally Ods, who used to dig the tanks of Thanesar. It seems not at all unlikely that this may be true in substance, for the tribe is curiously localised. At the last Census only 40,781 persons in the Punjab recognised themselves as Rors, of whom 34,094 belonged to Karnal, 4,861 to Ambala, and 1,084 to native states (probably Jind). In Ambala they are only found in very numbers close to Thanesar, where they own a number of villages. They are also strong in the Indri Nardak and Pehowa Bangar to the S. and S.-W. of Thanesar. They hold some estates alone or jointly with the Chauhans to the North of Hatri, and a few in the S. of Kaithal near the Jindli border. They now own estates along the Rohtak Canal once held by Gujars. That they originally in many cases, if not in all, held their lands as dependents of the Rajputs admits of little doubt. Socially they rank below Jats. The Rors, while as good cultivators as the Jats, and assisted by their women in the same way, are much more peaceful and less grasping in their habits; and are consequently readily admitted as cultivators where the Jats would be kept at arm's length. They are fine stalwart men. Their caste organization is stronger than that of the higher agricultural tribes, and the panchayat is still powerful.

148. The Tagas, who must be carefully distinguished from the criminal Tagas of these parts, also of Brahminical origin, are a Brahman caste which has abandoned (*lagan koria*) the priestly profession and adopted agriculture. They have Brahmins as their family priests. They are all Gaur; and according to tradition their origin dates from the celebrated sacrifice of snakes by Jannajayn (vulg. Jalmaja Rishi, also called Raja Agrani), which is said to have taken place at Salsan in Jindli. At that time there were no Gaur in this country, and he summoned many from beyond the sea (*sis*).

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Half of them would take no money reward for their services; upon which he gave them 134 villages in those parts, when they decided to take no further offering in future, and became Tagas. The others took the ordinary offerings, and their descendants are the Gaur Brahmanas of those parts. Both retained their division into ten clans, and are hence called *dasam* Brahmanas.

The Hindu Tagas still wear the sacred thread, but Brahmanas do not intermarry with them, and will not even use ordinary bread from their hands. Many of them are now Musalmans. It must not be supposed that a Brahman now relinquishing the priestly craft and taking to agriculture will become a Taga; the Tagas were made once for all, and the limits of the tribe cannot now be extended. They are, as already stated, the oldest inhabitants of the tract; but are now confined to the parts about Hatwala and Barana. The Barana and Sanauli Tagas are of clan Bachchus, from Kalwa Jamai in Jindh; those of Pundri and Harsingapur of clan Parasir, from the neighbourhood of Pehowa; those about Hatwala are of the Bharadwaj, Gautam, and Sarola class, and come from Sirsa Patan, via the Khadir to the south of the tract. They are, as cultivators, superior to the Rajput, Gajar, and Brahman; but fall very far short of Jat and Ror. Their women are strictly secluded.

The Brahmanas.

149. Brahmanas hold only a small area in the tract, there being but few villages in which they have acquired any considerable share. But they own small plots in very many villages, being, for the most part, land given to family priests (*parakits*) by their clients (*rajmans*) as religious offerings (*puja*). They are vile cultivators, being lazy to a degree; and they carry the grasping and overbearing habits of their caste into their relation as land owners, so that, wherever Brahmanas hold land, dispute may be expected. The local proverb goes *Brahman se bura, Bager se hai*, "An famine from the desert, so comes evil from a Brahman." Most of the Brahmanas of the tract are Gaur. There are also a few Saraut Brahmanas who are said to be far less grasping and quarrelsome than the Gaura, and are certainly less strict in their caste habits, so that Gaura will not eat ordinary bread from their hands. The most common *gotas* are the Bharadwaj, Bachchus, Gautam, Parasir, and Sandlas. The Brahmanas have, in almost all cases, followed their clients from their original abodes to the village in which they are now settled.

The Gujrati and
Dakaut Brahmanas.

150. There are two tribes of Brahmanas which, though they own no land, are of special interest; they are the Gujrati and the Dakaut.

Offerings to Brahmanas are divided into *har* or *graha* for the days of the week, and the two *grahin* for Itahu and Ket, the two demons who cause eclipses by attacking the sun and moon. These two are parts of a demon (*rahasura*), who, when

sitting at dinner with the gods and demons drank of the nectar of the gods instead of the wine of the demons. The sun and moon told of him, and Bhagwan cut him into two parts, of which Rahu, including the stomach and therefore the nectar, is the more worthy. When any body wishes to offer to Brahmans from illness or other cause, he consults a Brahman, who casts his horoscope and directs which offering of the seven grades should be made. The grades are more commonly offered during an eclipse, that to Rahu being given at the beginning, and that to Ket at the end of the transit. The Gaur Brahmans will not take any black offerings, such as a buffalo or goat, iron, sesame (til) or urd, black blankets or clothes, salt, &c., nor oil, second hand clothes, green clothes; nor *satraja*, which is seven grains mixed, with a piece of iron in them; those belonging to the grade whose offerings are forbidden to them. An exception, however, is made in favour of a black cow.

The Gujrati or Bios Brahmans, who came from Gujrat in Sind, are in some respects the highest class of all Brahmans; they are always fed first; and they bless a Gaur when they receive him, while they will not eat ordinary bread from his hands. They are fed on the 12th day after death, and the Gaur will not eat on the 13th day, if this has not been done. But they take insuspicious offerings. To them appertain especially the Rahu offerings made at an eclipse. They will not take oil sesame, goats, or green or dirty clothes; but will take old clothes if washed, buffaloes, and *satraja*. They also take a special offering to Rahu made by a sick person, who puts gohl in *phul*, looks at his face in it, and gives it to a Gujrati, or who weighs himself against *satraja* and makes an offering of the grain. A buffalo which has been possessed by a devil to that degree that he has got on to the top of a house (often no difficult feat in a village), or a foal dropped in the mouth of Satan or buffalo calf in Magh are given to the Gujrati as being unlucky. No Gaur would take them. Every harvest the Gujrati takes a small allowance (*marki*) of grain from the threshing floor, just as does the Gaur.

The Dekanti came from Agraha in the Dekhan. Raja Jasrat (Dacantha), father of Rameshndra, had excited the anger of Saturday by worshipping all the other grades but him. Saturday accordingly rained fire on Jasrat's city of Ajudhia. Jasrat wished to propitiate him, but the Brahmans feared to take the offering for dread of the consequences; so Jasrat made from the dirt of his body and Daka Bichi who took the offering, and was the ancestor of the Dekanti by a Sudra woman. The other Brahmans, however, disowned him; so Jasrat punished him by promising that all Brahmans should in future regard his children. The promise has been fulfilled. The Dekanti are prominent as astrologers and soothsayers, and are consulted by every class on all subjects but the dates of weddings and the

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names of children, on which the Gauris advise. They are the scape-goats of the Hindu religion; and their fate is to receive all the unlucky offerings which no other Brahmin will take, such as black things and dirty clothes. Especially they take the offerings of Wednesday, Saturday, and Kat. They are so unlucky that no Brahmin will accept their offerings, and if they wish to make Utsav, they have to give them to their own sister's sons. No Hindu of any caste will eat any sort of food at their houses, and at weddings they sit with the lower castes; though of course they only eat food cooked by a Brahmin. In old days they possessed the power of prophecy up to 10-50 A. M.; but this has now failed them. They and the Gujratis are always at enmity, because, as they take many of the same offerings, their interests clash.

The Saiyids.

151. The principal Saiyids are those of Baram, of the Zadi branch, and descended from Abdul Farah of Wasat in Arak, who accompanied Mahmud Ghaznavi, and, settling first at Chhat Bazar in Pothohar and then at Sambhalheri in Musaffarnagar, was the ancestor of the Chattrali Saiyids. The Saiyids of Saiyidpur and Jal Pahar are Musani Saiyids, the former from Moolbad the latter from Khojand, near Khorasan. The Faridpur Saiyids are Musavi from Kaswin in Persia. All belong to the Bara Saadat, who played such an important part in the latter days of the Mughal Empire. There is also a large community of Saiyids at Baras, descended from Shah Abdul from Chhat, who assisted Sikandar Lodi at the siege of Narwar and obtained a grant of part of the village. They have an old MS. family history of some interest. Other well known but decayed communities of Saiyids are Gula and part of Pundri in Kaithal. Timur found the Saiyids in Gula when he crossed the Ghagar in 1396 A.D. Mr. Hbbetson writes:—

"The Saiyid is emphatically the worst cultivator I know. Lazy, thriftless, and intensely ignorant and conceited, he will not dig till driven to it by the fear of starvation, and thinks that his holy descent should save him from the need of sweating. At the best he has no cattle, he has no capital, and he grinds down his tenants to the utmost. At the worst he is equally poor, dirty, and holy. He is the worst revenue payer in the district; for light assessment means to him only greater sloth. I have known a Saiyid give one-third of the yield of his grain-field to a man for watching it while it ripens; and if his tenants' rent is Rs 10, he is always glad to accept Rs 5 at the beginning of the season in full payment.

152. *Gulia*.—The Gulia are Mussalmans. They are mostly of the Saroha clan, and come from the Bugar or from the Ambala district. They own villages in the Indri Khadir.

Kamohar, Bains, and Malis.—The Kamohar are excellent cultivators. Bains and Malis, who practice market gardening, are chiefly settled in the towns, where they cultivate as tenants. But the Bains also own villages in the Powand tract to the north of the Ghagar. They are Mussalmans.

Miscellaneous and
nomadic tribes.

Bairagis.—The Nanawat Bairagi of Golt, Watari, and Harunghpur, the Hans Nandi Bairagi of Sita Mai and Bhandari, and the Radha Bahaddi Bairagi of Therana and Matmani own a good deal of land. Besides the monks (*adhys*) of the monasteries (*asthal*) whose property depends to their disciples (*chela*), who are called their *asoti* children, many of the Bairagi have married and become *Shristi* and have descendants by procreation, or *hansi* children, thus forming a new caste. This latter class is drawn very largely from Jats. The monastic communities are powerful, are exceedingly well conducted, often very wealthy, and exercise a great deal of hospitality.

Shekhs.—Of Shekhs proper (*Aralis*), the only representatives in the tract are the Kureshis, Ansaris, and Muhajarin (*Makhdumzads*) of Panipat (see Chapter VI). But every low caste convert to Islam calls himself a Shekh, and such Shekhs are known in the district as *siddi*. The Ranghars of the Powadh who claim to be Rajputs, but practice low-caste, are often called Shekhs. But the most remarkable Shekhs are, a menial caste of that name, which is represented in very many villages by one or two small families, and from which the village watchmen have been almost exclusively drawn from time immemorial. The people say that it was the policy of the old Emperors to have some Muhammadans in every village, and that they therefore appointed and settled these people; and the story is not improbable.

Jogis.—There is a caste called Jogi, generally Hindu, which is one of the lowest of all castes, and receives the offerings made to the impure gods. They are musicians, and practice witchcraft and divination. They must be carefully distinguished from the *Kauphata* Jogis, or monks of Shiv, who are a sect of religious devotees and not a caste at all, and in fact do not marry.

Menial Castes.—The menial castes (*kamins*) only hold land in the rarest possible instances. Their place in the village community is fully described in the next section. They are principally distinguished by their elaborate caste organization, which is so complete that their disputes seldom come into our Courts.

SECTION E.—VILLAGE COMMUNITIES AND TENURES.

153. The proprietary body proper, which forms the nucleus round which the subsidiary parts of the community are grouped, includes all those who have rights of ownership in the common land of the village. It is seldom wholly confined to one single family, strangers having almost always obtained admission in some one or other of the ways indicated in para. 136; and very often the community will consist of two distinct tribes or clans of the same tribe, holding more or less equal shares in the village. The community, however constituted,

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is almost always sub-divided into wards or *paras*, each *paras* embracing a branch of the family descended from some common ancestor, and perhaps strangers settled by that branch, if not sufficiently numerous to constitute a separate *paras* of themselves. The word *paras* is also the local term for a lot (*paras* *arant*, to cast lots), and is almost the only relic still remaining of the old custom of periodical re-distribution of land which seems to have once been so common in Aryan communities.⁽¹⁾ These *paras* are very commonly again sub-divided into *thakats*, which are also based upon community of descent. The village is represented by a certain number of headmen, or *lambardars*, generally one or more for each *paras* or *thaka*, according to size; and these again are assisted by *thakatsars*, a kind of assistant headmen who are not officially recognized. The headman has a considerable discretion in the choice of his *thakatsars*, but the latter must be so chosen as fairly to represent the various genealogical branches of the community. The headman and *thakatsars*, together with such men as have gained influence by age or ability, constitute the *panch* or village council—an institution which, though no longer recognized by us, still exercises considerable authority, is generally appealed to in the first instance, and successfully settles a great number of disputes.

Village officers.

154. The following table shows the number of *mutdars*, *inamdars*, chief headmen, and *lambardars* in the several *thakats* of the district:—

THAKAT.	Kalidars.	Inamdars.	Chief headmen.	Village headmen.
Paupal	7	..	102	719
Karnal	14	7	41	953
Kalihal	15	11	..	916
Total	36	18	143	2,618

The *soils* may be classified as follows according to prevailing tribes:—

THAKAT.	Chandian Soil.	Mouthan Soil.	Tamwar Soil.	Jat.	Ujjar.	Ras.	Kambah.	Geol.	Miscellaneous.
Paupal	..	..	..	4	3	1	..	..	..
Karnal	4	3	..	3	..	2	1	1	..
Kalihal	1	3	1	3	1	1	..	..	1
Total	5	6	1	10	3	4	1	2	1

(1) The holdings in the sandy parts of some villages are still periodically re-distributed; but this is a good deal because the wind alters the boundaries and makes them difficult to trace. The uncertainty of the yield, moreover, is one of the causes of the re-distribution, according to the people themselves.

(2) In Indri and Kalihal the division is into *guths* and *wahls*.

Each *malik* is remunerated by an allowance of 1 per cent. deducted from the land revenue of his circle. In *taluk* Panipat and *pargana* Karnal chief headmen were appointed at Mr. Tubetson's Settlement in large villages, where the headmen are numerous; they are elected by the votes of the proprietary body subject to the sanction of the Deputy Commissioner. They represent the body of headmen, and receive Government orders in the first instance, though in respect of the collection of revenue they possess no special authority or responsibility. In *pargana* Indri and *taluk* Kaithal the *ala lam-bardari* system has not been introduced, but *cash tams* have been given to a few influential headmen, the sum allowed for this purpose being 1 per cent. of the land revenue. Most of these *tams* are of the value of Rs. 50 per annum. After annexation small *cash tams* were given for life to certain headmen in Kaithal. All of these have lapsed or been absorbed in the new *malikdars* and *amfalspots tams*. The head-quarters of the *amils*, together with the prevailing tribes in each, are shown below:—

Taluk.	Malik.	No. of villages.	Annual land revenue.	Prevailing tribes.
Panipat	Panipat	27	66,937	Jats.
	Khejajpur	41	47,729	Gujars.
	Jasroli	31	71,072	Jats.
	Muditha	23	52,000	Do.
	Karnal	18	32,344	Bhars.
	Bhalsi	19	29,000	Jats.
	Katol	17	43,423	Gujars.
Taluk Karnal	Jundla	29	14,739	Chandhan Rajputs.
	Kapali	29	24,740	Jats.
	Chakraunda	35	31,231	Chandhan Rajputs.
	Burwal	15	22,944	Jats.
	Dachow	22	31,912	Chandhan Rajputs.
	Bhars	27	13,223	Chandhan Rajputs.
	Nagla Magha	24	13,813	Chandhan Rajputs.
	Barganwar	22	20,226	Chandhan Rajputs.
	Manthra	34	22,469	Do.
	Puthora	24	16,720	Jats.
	Chandana	17	14,273	Do.
	Shergach Tapa	29	16,392	Do.
	Khars	14	12,835	Kamthas.
	Jorahara	14	6,149	Gadha.
	Barnala	16	6,724	Bhars.
	Amia	29	16,446	Do.

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Tahsil.	Zail.	No. of villages.	Annual land revenue.	Prevalent tribe.
Kaithal	Kaithal	24	20,137	Jats.
	Kewak	24	13,007	Gujars.
	Habri	20	12,074	Chauhans Rajputs.
	Gonchada	17	13,170	Tanwar Rajputs.
	Asanah	27	12,079	Manikar Rajputs.
	Hafanah	10	2,829	Do.
	Siwan	30	50,440	Do.
	Niguan	15	9,105	Jats.
	Pai	21	17,709	Do.
	Chhakar	22	20,441	Do.
	Umagal	23	21,230	Do.
	Stakhi	24	11,336	Do.
	Saran	24	9,031	Do.
	Paharna	20	10,000	Rors.
	Gala	41	17,000	Miscellaneous.

Manas Knapora in Indri and 34 estates in Kaithal belonging to the Arnauli and Siddhuwal *jajirs* are excluded from the *saidhari* system.

Village headmen.

165. It appears from the old records of Panchpat and *purpura* Karnal that in former days there was one headman for each *parau*. They had great authority, the distribution of the revenue being wholly in the hands of the *thaps* and village councils, of which they formed the heads. Their office was hereditary; though lineage was an essential, and the next heir would be passed over, if incapable, in favour of another member of the same family. When we acquired the tract the same arrangement was perforce continued for many years, as no record of individual rights or liabilities existed. But unfortunately the hereditary nature of the office, and the authority which should attach to it, were lost sight of. All the leading men of the village were admitted to sign the engagement for the revenue, and all that signed it we called headmen. The allowance (*panchtra*), which is given to these men, took the form of a deduction from the last instalment of revenue if paid punctually, and was divided by all the engagers; in fact, it is even said that "all the owners shared it proportionally, and that it practically took the form of a mere abatement of revenue in which the whole community had a common interest."

In 1830 a half-to-field record had been introduced, and an attempt was made to limit the number of headmen, it being ruled that the people were to elect fresh headmen every year, who alone were to enjoy the allowance. The Collector of the time regretted the change. He wrote in 1831:—

"The great objection to the new arrangement is that it is calculated to destroy the strong and honourable feeling of mutual good-will and attachment which formerly characterized the intercourse of the headmen or *sharers*, with the other classes of the community.

The support and assistance which the elders had it in their power to afford to the poorer cultivators ensured their respect and obedience, and consequently the peace and good order of the society. The power they possessed was considerable; and so far as the interests of their own village were concerned, was scarcely ever abused."

The words in italics show the light in which these innumerable headmen were then looked upon. The other members of the proprietary body were called *rajots* or cultivators; and we find the Supreme Government asking for an explanation of the fact that some of the reports submitted seemed to imply that they too possessed a proprietary interest in the land.

The plan of having a new selection of headmen does not seem to have been, in its integrity, carried into effect; but up to the settlement of 1842 the number of headmen was still inordinately excessive. We had a village paying Rs. 14,000 with 75 headmen, another paying Rs. 3,500 with 21, a third paying Rs. 2,500 with 33, and so on. In 1839 the Collector wrote that the matter had been "a continual fester for years." At the settlement of 1842 the Settlement Officer was directed to reduce the numbers largely, taking as a general standard one headman for every Rs. 1,000 of revenue. He found that among the crowd of so called headmen there were generally some who had enjoyed the office, either personally or through their ancestors, for a considerable period. These he selected; and, as far as possible, gave one headman at least to each sub-division of a village.

In Karnal the number of headmen recognized in the first Settlements was excessive. In the Settlement of 1856 the evil was met in many villages by the somewhat clumsy device of confirming existing holders in their appointments for life, and providing that the first one or two vacancies should not be filled up. Thus, if the most influential headman in an estate died first, his heir had no claim. The rule was carried out, but the other headmen often continued to pay a share of the *pacheta* to the heir, who in ordinary course would have succeeded, for long after his position had ceased to be officially recognized. Many claims for the revival of appointments which had lapsed were presented during the recent settlement, but they were rejected.

At present the distribution is very unequal; villages with eight or ten headmen are not uncommon; and as each man often pays in only two or three hundred rupees of revenue, the allowance of 5 per cent. is, in such cases, quite insufficient to give any standing to the office. As a rule either the headman or the *patwari*, or both together, have the accounts of the community very much in their own hands. The headmen have, therefore, great power in many matters; but our system has to a large extent deprived them of that utility and responsibility which is the best security for a proper exercise of such power. That serious cases of embezzlement are so rare is a proof of the good faith which governs the mass of the people in their dealings

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Village Headmen.

with one another. The village headmen enjoy certain privileges by virtue of their office. Thus they and their heirs-apparent are exempt from the duties of village watch and ward (see para. 191). A *chamur* is often attached to each headman as a personal attendant without payment further than his mid-day meal; and the body of *chamurs* generally have to give a day's work in the fields of each, though, as they expect to be feasted on the occasion, the service is more of an honour than a profit to the recipient. The right of succession runs in the oldest male line; and the right of representation is universally recognized, the deceased elder son's son taking precedence of the living younger son, though the former may be a minor, and a substitute may have to be appointed to do his work.

Village and proprietary tenures.

156. Table No. XV shows the number of villages held in each of the main forms of tenure, with the number of proprietors or shareholders and the gross area included under each class, as returned in Table No. XI of the annual Revenue Report for 1888-89. But the accuracy of some of the figures is doubtful. It is in many cases impossible to class a village satisfactorily under any one of the ordinarily recognised tenures, as will appear from the following description by Mr. Dabestan of the tenures of that portion of the district settled by him:—

"The villages of the tract (between Panipat and pargana Karnal) have, for the purposes of Settlement, been classified as follows:—64 held wholly in common by the body of owners (*communiari*); 22 divided among the several branches of the community according to ancestral shares (*partidari*); and 250 held in severalty by the individual households, the holding of each being quite independent of any fixed rule (*shahidars*). But this classification is practically meaningless. Of the 64 *communiari* villages, 41 are held by the Skinner, the Mandala, or purchasers from them; 9 are small uninhabited plots of land belonging to larger villages, but having separate boundaries of their own; and 9 are on the river edge, where the uncertainty of the river action renders the joint stock tenure the only one which can secure individual proprietors against serious loss or utter ruin. Of the 22 *partidari* villages, 7 are small uninhabited plots of land as above, and 4 are subject to river action; while in most of the remainder the property of individual households is regulated by possession and not by shares, though the several male branches of the community have divided the village by shares. On the other hand, in the 250 *shahidari* villages, though the common land has not yet been divided according to shares, yet the interest of the several branches of the community in that land is strictly regulated by ancestral shares in a very large number, if not in a majority, of instances. The fact is that a village may have four or five *passars* with two or three *shahs* in each; there may be common land of the village, of each *passar*, of each *shah*, and of two or more *shahs* and *passars* jointly, the scale of separate interests in each varying in its nature from one to another, and each single family holding by possession and not according to shares; so that it is, as a rule, impossible to describe the tenure of a village in a word, or to classify it satisfactorily under the recognised headings."

At the recent settlement of Indri and Kaithal the estates were classed as follows:—

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Village Communities and Tenures.

Village and proprietary estates.

Tenures.	Indri.	Kaithal.
Zamindari	85	25
Patidari	65	5
Bhainsakhara or mixed patidari and bhainsakhara.	140	310
Total	244	420

157. Until the recent settlement there were 55 landed villages, 6 in Indri and 52 in Kaithal. Two of the Indri *hissars* were made by Mr. Wynyard under the rules for the lease of waste lands contained in Notification No. 5705 of the Government of the North-Western Provinces, dated 28th November 1848. Most of the other leases were arranged by Captain Larkins, when he settled the Thanesar district in 1855 and 1856.

Landed estates in
Indri and Kaithal.

158. When Kaithal passed in 1843 we took over a country occupied by settled communities, some of which had been strong enough to offer a very vigorous resistance to the oppressions of the Sikhs. But cultivation had declined in the evil days that preceded our rule. It was found that there were some patches of waste land kept as *birs* or grass preserves by the late Sikh ruler, and that there were also a number of deserted sites, which tradition said had once been occupied by village communities. The owners had been driven from their homes by one or other of the numerous famines which desolated Kaithal and the neighbouring States in the last quarter of the 18th and the first quarter of the 19th century, or they had fled in the times of confusion which followed upon the decay of the Mughal Empire. When order was restored there was no lack of claimants to the ownership of the deserted sites. In many cases the *zamindars* of the large villages in the neighbourhood asserted that they were the *baridars*. They doubtless declared with more or less truth that the smaller estates had been founded by colonies from the older villages, and that the colonists, when unable to protect themselves from oppression, had returned to the strong parent community. Later on Captain Larkins formed new estates by demarcating part of the extensive waste which he found to exist in many villages. The Kaithal *hissars* therefore were often encumbered by previous rights, which were acknowledged by the payment of a *subsidy* or ownership fee to the *zamindars* to

Origin of *hissars*.

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Village Communities and Tenures.

Leases of waste land made at the first summary settlement in 1843.

whom the *biswadars* was admitted to have originally belonged.

159. The cessation of internal disorder and border warfare which followed on the introduction of our rule gave a sudden impulse to agriculture, many *samindars* came back to their homes, and in 1843 Major Lawrence was able to locate 89 *thahs* or abandoned villages, 89 were engaged for by the *samindars* within whose original boundaries the deserted sites were situated, and 84 remained to be disposed of after time had been given to the old cultivators to return (Lawrence's Settlement Report, page 40). No details can be given as to the arrangements made by Major Lawrence, but Captain Abbott describes the general results of his action as follows:—"The terms of the leases were so light, and the parties 'being generally bound in no penalty, very few (of the estates) 'were peopled, greater profits were to be derived from the sale of 'grass, wood, and grazing privileges.' As regards 'uncultivated lands generally, Major Lawrence explained to the *samindars* that 'the waste lands were their own to do what they pleased 'with for the next three years, (the period of his summary settlement), adding that at the expiration of that time they would only 'be entitled to areas of waste equalling double the extent of their 'cultivation."

Leases made as Captain Abbott's Settlement in 1847.

160. At the regular settlement made in 1847 by Captain Abbott 64 sites were leased out. In some cases two neighbouring sites were leased to the same persons, so that there were not really 64 estates. Fifty-two of the leased sites were in the dry uplands where well irrigation is unprofitable. Captain Abbott stipulated for the breaking up of a certain proportion of the waste, the sinking of a well or the digging of a tank, the locating of a certain number of ploughs, and the building of a certain number of houses. The leases were often made to the *samindars* of large neighbouring villages with which the sites had been measured at the summary settlement. The leases were acknowledged as *biswadars*, but it was provided that if they failed to fulfil the conditions of the lease they should lose the *biswadari*, and also pay a penalty of three times the *jama* assessed. Captain Abbott's view of the rights of Government and of the effect of the action he took was expressed as follows:—"I have endeavoured as much as possible to restore the sites to former occupants, but very few such existed. 'The lands were waste, overrun with jungle, the peculiar property 'of Government, to dispose of to the best advantage. Proclamations for their disposal were issued, and, after the disposal of any 'claims that might be made, the more eligible offers were 'accepted. Thus the *biswadari* of these sites has been disposed 'of under certain conditions, failing fulfilment of which it will 'at the end of three years, be available to the Government to 'dispose of in any other way." He expected that in consequence of the arrangements he had made 50 new estates would be

founded within three years, and that at the termination of the settlement these would be strong villages. These sanguine expectations were, however, disappointed. The main defect in Captain Abbott's scheme was the extremely short time given for the fulfilment of the terms. The condition of sinking a well was also a very unsuitable one to impose on the founder of a new village in this upland tract, where water is often above 100 feet from the surface and wells are not used for irrigation. They are extremely costly, and take 10 or 15 years to sink. The work is begun in a good year, abandoned if bad seasons follow, and taken in hand again when times improve. The large proportion of new cultivation demanded by Captain Abbott could scarcely be effected in three years, and there was every temptation to rely on the profits of cattle rearing and proceeds of grazing dues, from which a fair income was derivable.

161. It is not, therefore, strange that in the great majority of cases Captain Larkins, who re-settled the district in 1855, found that the conditions of the leases were unfulfilled. It was at first proposed to sell the leased lands outright; but the result of the single sale that was carried out was not encouraging, and Mr. Edmonstone, Commissioner of the Cis-Satlaj States, proposed to the Board of Administration that the lands should be again leased. The Board, while expressing much scepticism as to the possibility of converting a tract intended by nature for cattle rearing into a well-cultivated country unless a canal could be brought through it, acquiesced generally in Mr. Edmonstone's proposals. (Secretary to the Board of Administration to the Commissioner, Cis-Satlaj States, No. 1529, dated 28th May 1852). In only a few cases were Captain Abbott's leases held to have earned a proprietary title; more than one-third of the leases were cancelled and the lands re-settled with new applicants. But in many cases, where some thing had been done to improve the land, Captain Larkins revised the original conditions and granted fresh leases to the old farmers. The chief alteration was the striking out in Bangar leases of the condition that the lessee should sink a well. The leases were given five years within which to fulfil the terms of the new leases. Many of Captain Abbott's leases had been made to the *zamindars* of the villages in which the deserted sites had been included in the first summary settlement. In these cases Captain Larkins held that defaulting lessees "had forfeited all claim beyond the *biscondari* allowance of 5 per cent. on the Government demand, where they have been recorded as *proprietors*." Besides dealing with the leases made by Captain Abbott, Captain Larkins himself separated off from the *arwa* of villages having excessive waste 21 new estates. A *malikana* of 5 per cent. on the revenue was declared to be payable to the original proprietors. His action in demarcating these estates was based on Regulation VII of 1822, and it is clear that his authority was derived from the 8th Section, and the *malikana* was fixed, to quote the words of that section, "in lieu and bar

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Leases made at Captain Abbott's settlement in 1817.

Leases made at Captain Larkins' settlement in 1855.

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Leases made at Captain Larkins' cost, 1822-1823.

"of all claims to or in waste lands so granted." He intended that a lessee, who fulfilled the conditions of the lease, should be regarded, or, if already recorded as owner, confirmed as proprietor of the village which he founded. Even if the lessee was also the recorded proprietor, he was liable, if he failed to carry out the conditions on which the estate was leased to him to forfeit all title in it beyond the right to receive an allowance of 5 per cent. on the revenue. Excess waste was not always formed into separate estates. In the case of some villages with numerous arms of jungle Captain Larkins contented himself with taking written engagements from the proprietors to the effect that, "it would be in the power of the District authorities (under Regulation VII of 1822) at any time, during the term of the present settlement, in estates where the waste exceeds twice the area under the cultivation, to mark it off separately for the formation of a new mahal in the event of any parties coming forward to take up the lease."

Conditions of leases granted to Captain Larkins.

162. Captain Larkins' policy in the high upland tract was only to require the cultivation of a certain proportion, usually one-third or one-fourth, of the assessable area, and the location of a certain number of ploughs. He considered it absurd to bind a lessee to sink a well, seeing that the surroundings in many old villages depended on their tanks for drinking water, and, even where wells existed, preferred to use tanks because of the trouble involved in drawing water from a depth of above 100 feet. He knew besides that, if cultivators settled at all, they would assuredly either sink a well or dig a tank. The stipulation as to houses appeared to him superfluous, as the location of ploughs implied the presence of cultivators. He fixed progressive assessments, the initial *jama* being two-thirds of the average annual income found to be derived from the sale of grass and of grazing dues. The final demand was not allowed to exceed the amount brought up by the application of the *pargana* revenue rates to the area required in the lease to be cultivated. In new leases ten years were allowed for the fulfilment of the terms, but it was stipulated that one-half of them should be carried out within five years.

In 1833, soon after the abolition of the Thanseer District and the transfer of Karnal to Karnal, Mithan Lal, Extra Assistant Commissioner of Karnal, carried out an enquiry as to the extent to which the lessees had fulfilled the conditions of their leases. He appears to have found that in scarcely a single case had the lessee succeeded in carrying out within the first five years all that he was required to do within that period. The Deputy Commissioner of Karnal cancelled many of the leases, but the Commissioner subsequently held that the annulment of a lease merely because the farmer had failed to bring the required extent of land under the plough would not be justifiable.

Enquiry as to fulfilment of conditions of leases made in 1853.

to the extent to which the lessees had fulfilled the conditions of their leases. He appears to have found that in scarcely a single case had the lessee succeeded in carrying out within the first five years all that he was required to do within that period. The Deputy Commissioner of Karnal cancelled many of the leases, but the Commissioner subsequently held that the annulment of a lease merely because the farmer had failed to bring the required extent of land under the plough would not be justifiable.

as he considered that the terms imposed were impossible of fulfilment. The leases were to continue in possession and their claims could be considered at settlement.

163. A full enquiry into all these leases was made during

Settlement Officer's No. 632, dated 10th December 1882, reporting on 26 estates.

Settlement Officer's No. 411, dated 25th April 1883, reporting on Patti Midhura.

Settlement Officer's No. 331, dated 22nd April 1883, reporting on Sir Rai Tikana.

Panjab Government's No. 524, dated 22nd August 1894, passing orders on 27 estates.

Panjab Government's No. 104, dated 23rd August 1894, passing orders on Sir Rai Tikana.

description. The so-called lessees were owners of the land, but had in most cases been bound over to cultivate a certain portion of their waste within a limited period. If they failed to do so Government had the power to cancel their rights of ownership and form new estates out of the excess waste. Adding to the area of these estates a few plots in ordinary leased villages which were recorded as the property of private persons at the last settlement, he held that 15,304 acres were already owned by zamindars, and he proposed that Government should admit that their proprietary rights were subject to no special conditions. He considered that in such cases tenants who made claims to occupancy rights should be left to establish them by regular suits. As regards the remaining estates enquiry showed that in hardly a single instance had the conditions been fulfilled within the period fixed in the original lease. But Mr. Davis proposed that Government should deal liberally with the lessees and look rather to the present state of villages than to the result of the enquiry made by Mitima Lal in 1863. Where the terms were shown now to have been fulfilled, and even, in some cases, where they had not been literally fulfilled, but substantial progress had been made, he advised Government to admit the lessees as owners subject to certain conditions stated below. Where little or nothing had been done he proposed to cancel the lease, and to resume the estate. He urged that advantage should be taken of the fact that the conditions were not fulfilled in time—

- (a) to protect the rights of old cultivators;
- (b) to secure the reservation of a considerable area as village pastures;
- (c) to put certain restraints on the power of alienation.

A register containing detailed proposals as to the grant of ownership and occupancy right, &c., in each estate was submitted, and is now in the district office. The gist of the proposals was that Government should resume 19,810 acres, grant ownership in 45,620 acres, and give a fresh lease of 1,626 acres. In many cases the recorded lessees were merely representa-

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Treatment of leased estates at the recent settlement.

tives of a larger body of their caste fellows, or had, after obtaining the leases, called in cultivators under engagements, express or implied, to give them a share in the ownership, if ultimately conferred. Hence many persons, other than the recorded lessees, were held to be owners. This was often, but not always, done by consent. Many old cultivators, though not entitled to a share in the proprietorship, appeared to deserve protection from exorbitant and future enhancement of rent. They had in most cases paid exactly like owners, and shared all their other burdens and privileges. In such cases Mr. Dutt proposed to fix their rents in perpetuity at revenue, cesses, and *malis*. Where rent was paid by division of crop the old rates were as a rule continued. The Settlement Officer proposed to reserve 7,750 acres of the land made over in ownership to the lessees as common village pastures, providing that any one encroaching on such land should pay a fine of Rs. 100 to Government and be ejected. This plan met generally with the approval of the people, and did by order what they would do themselves if they had not lost the power of combination. The management of these reserves was to be left entirely in the hands of the owners.

The restrictions on alienations which were suggested need not be detailed, as Government declined to sanction them. In other respects the proposals were approved of, though final orders on one or two points have yet to be issued. Where *malis* has hitherto been given by the lessees to the owners of the estates from which the leased areas were originally separated, it will continue to be paid, but the recipients are not recognised in the revenue records as *ala malis*, and they will receive their *malis*, not direct from the new owners, but through the *taluk*.

Estates resumed by Government.

164. The estates which Government has now taken over are Badalwa, Dhindhari, Ukashaiti, and one-third of Motia in Indri, and Thek Majibulla, Koli Khara, one-fourth of Khanpur, Rawanhera, Thek Bahiri, Bari, Kalalpur, and Khanda Kheri in Kaithal. The last five will probably become irrigable from the Sirsa Canal and Rajbaba No. 1; and four of them should become very valuable. The Indri estates form two solid blocks of grazing land. Khanpur is close to the town of Kaithal and contains good pasture. Koli Khara is of little use for grazing, but contains fine timber (*kikar*), which would be valuable if there were any market for it. The land is unsuited for cultivation. Thek Majibulla is in the Sarasti and liable to be flooded. Much of the land is bad, and the grasses are coarse. In addition to the above Government owns in Kaithal 453 acres in Thek Ruberia, which is kept as a grazing *rakh*.

Idea regarding property mobilised under British rule.

165. A discussion of the changes that have occurred in the ideas regarding property in land and the rights of cultivators under our rule will be found in paragraphs 240—41 of Mr. Dinetson's Settlement Report. He concludes by saying:—

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Village Communities and Tenures

Notes suggesting property modified under British rule.

"The present state of affairs, then, is this. The fractional shares of the whole village and of the chief sub-divisions of the village, to which each main branch of the community is entitled, are often still recorded in the papers, and very generally measure their interest in the common land. But the internal distribution of property in the common land between the constituent households of each main branch is always regulated by the areas held in severalty. Even when the holdings in severalty regulate the primary division of the common land also, which is most often the case in villages held by two or more different tribes, who can, of course, have no ancestral scale of rights, the recognised shares which used to measure the rights of each are very often recorded in the papers of last Settlement, though it is at the same time recorded that they are no longer acted on. And instances are by no means uncommon where the wards of a village, in the face of a distinct record that their rights are proportional to their holdings in severalty, have yet at division, reverted by consent to the old shares, although the revision involved a loss to one or other of them."

106. The land owned in severalty by individual families is not only inherited, but is also invariably divided on the occasion of separation of property in strict accordance with ancestral shares. The members of the family often divide the land among themselves for convenience of cultivation more in accordance with the appliances at the disposal of each than with the proprietary shares, just as the common land is allotted to the various families on a similar scale. But this division is not a division of property; and the right of the members to a re-distribution according to shares, with due regard to the preferential right of each to the land he has cultivated, so long as it does not exceed his share, is always recognized by the people, though sometimes (not often) contested by the individuals concerned.

The family. Rules governing the division of property.

The rules of inheritance are as follows:—No practical distinction whatever is made between divided and undivided families; in fact, the terms are hardly ever used.¹ First the sons and sons' sons by stirpes; how low soever succeed, sons representing their dead fathers. In the absence of them, the widow takes an interest strictly limited to a life tenancy. If there is no widow, or after her death, the brothers and brothers' sons how low soever inherit by stirpes with representation. In their absence the mother takes a life interest.² After these the inheritance goes to the nearest branch in the male line, the division

(1) Mr. Liberton, from whom the abstract in this and the next four paragraphs is taken, writes:—"I need hardly say that all my remarks refer solely to the land-owning natives, and not to Banias and the like. They also do not apply to the original Mussulmans, who usually follow the Mahamudiah Law. Moreover, to these matters I only give the general customs. Particular exceptions, though far less numerous than might be expected, will be found recorded in the record of customs customs." I have added some notes. See also the volume relating to persons (Haji and Jhalai Khatol) in the series devoted to the Customary Law of the Punjab.—J. M. D.

(2) There is some disposition among certain tribes to say that the mother should succeed along with the son's widow or even along with the widow. It is founded on the feeling that the older woman would be less likely to mismanage, and finally attempt to part with, the land.—J. M. D.

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Village Communities and Tenures.

The family: Rules governing the distribution of property.

at each stage being by stripes. Daughters, if unmarried, have a claim to maintenance only.¹ If property is separately acquired by a son in a divided family during his father's life, the father inherits before the brother; but separation of interest before the father's death is not allowed, and no separate property can be acquired by the individuals of an undivided family. The father may divide the land for convenience of cultivation; but on his death, or the birth of another son, it will be open to re-distribution.

In attesting the record of common customs the whole countryside has declared that, where there are three sons by one wife and one by another, all four share equally (*pagenad*). But there have undoubtedly occurred instances in certain families, especially among the Rajputs of the Nardak, where the division has been by wives (*chandwad*). Where *chandwad* is the rule of division, the full brothers and their representatives succeed to the exclusion of the half-blood; otherwise there is no distinction between the two.² All sons, whether by original marriage or re-marriage (*karwa*), are on an equal footing; no priority is attachable to the sons of any particular wife. But if a Rajput Mussulman should marry a woman of another caste, as they sometimes do, especially in the cities, the sons do not inherit at all, the property going strictly in the tribe.

A son born less than seven months after the marriage is consummated, even though begotten by the husband, and one born more than ten months after death or departure of the husband, is illegitimate. An illegitimate son cannot be legitimised, nor can he inherit.³ A son by a former husband brought with her by a woman on her re-marriage, who is called *gela*⁴ (*gel* together with) if born, and *karwa* if unborn at the time of the re-marriage, inherits as the son of his begetter. A member of the family who becomes a monk (*sadhu*) loses his inheritance; but does not do so merely by becoming a beggar (*fakir*).⁵ But the disciples of monks inherit from them as their sons. The life-interest of widows subsists so long as one is alive, and is shared by all equally. But a Mussulman widow of another caste has no interest; and a widow who re-marries loses all rights even if she marries the husband's brother. Pregnancy also destroys their rights; but not mere reputed un-

(1) It may be taken as a rule that the spinster wife is delivered from independence under all circumstances, at least as long as there is any male collateral however distant.—J.M.D.

(2) I think there is evidence to show that *chandwad* was more common formerly than it is now. It is found to some extent among the Sikhs, who came originally from the Punjab.—J.M.D.

(3) The answer you are likely to get to questions about illegitimacy is that no case of an illegitimate son being born in the tribe was ever heard of, and illicit relations between men and unmarried women of the same tribe and cast, being regarded as *haram*, are probably very rare.—J.M.D.

(4) Or *Gudra*.—J.M.D.

(5) There is no doubt that a man, who becomes a Hindu ascetic loses his rights of property. The rule is less positive as regards Mussulman *Sadiks*.—J.M.D.

chastity. Their rights are not contingent upon their living in the husband's village. Woman's separate property (*stridhan*) is unknown. It is remarkable how wholly, in the minds of the people, the family is represented by its head. At the Regular Settlement the name of the head only was recorded as a rule; and the people still think that it is quite sufficient to send their heads to represent them in court or elsewhere. This feeling, however, is weaker among the Jats than among other tribes; and they have become notorious in consequence.

167. The great object of these rules is to preserve the family property to the agnates. A man without a son, or whose only son has changed his religion, can always adopt (*godna*, *godhna*); and a widow left soleless can adopt at will, except among the Jats, where, unless the husband has selected the boy, the consent of the heirs is necessary. But the boy to be adopted must be a brother's son, or if there are none available, a cousin in the male line; and no relation in an elder degree than the adopter can be adopted. No cognate can in any circumstances be adopted except by consent of the next heirs, nor can an only child, except among the Rajputs. The Brahmins, however, can adopt sisters' and daughters' sons. There is no restriction as to age, nor as to investiture with the sacred thread, nor that the boy shall be the youngest of the family. The adopted son takes as a real son with children born after his adoption. If the division is by wives, he takes his share first *per capita* of all the sons, and the remainder divide by *shudhnam*. He loses all rights in his original family; and, even if his original brothers should die, can only inherit as the son of his adoptive father. A second adoption can only take place when the boy first adopted has died, and can be made by any widow who could have adopted in the first instance. The ceremony of adoption is as follows:—The man seats the boy in his lap (*gad*), feeds him with sweetmeats in the presence of the brotherhood, and declares that he has adopted him. If a woman adopt, she gives him her nipple to suck instead of sweetmeats. Sweetmeats are in every case distributed to the brotherhood.

168. There is a custom called *gaur jama*, which consists in a mother-in-law willing his daughter's husband (*jama*) in his house as his heir, when he and his son after him inherit on the death of the father without son; though if he die soleless the property reverts to the original family, and not to his own agnates. He retains his rights in theory in his original family, though he often abandons them in practice. There is no doubt

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Village Communities and Tenures.

The family. Rules governing the devolution of property.

Adoption.

The *Gaur jama*.

(1) Adoption is, however, very rare. There is much hesitation in admitting the right of a widow to adopt. In settling the *Risala* the Bore and *Wajars* of Karnal denied the right of the widow to adopt under any circumstances, but admitted that a man might adopt a son from among his collateral heirs. But they added that they had never heard of a case of adoption in their tribes, while Hindu and Musalman Rajputs asserted that adoptions were very rare. Civil courts should be very careful before they apply the maxims of Hindu law to disputed cases of adoption in India and Karnal.—J.M.H.

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Village Communities and Tenures.

The *Chak-jamti*.

Gifts, and transactions for consideration.

whatever that this custom *did* obtain, for many present land-owners have obtained their property in this way. But the feeling is strongly against it. The Jats, Rors, and Kambohs strenuously deny the right. The Rajputs and Gommis say that the son-in-law does not inherit. The Gujars and Bairagis admit that the custom occurs. The Brahmins say that the son-in-law cannot inherit, but his son, if he has one, can. Perhaps the real state of the case is that the thing is often done by tacit consent, but that probably the next agnates could forbid it. The existence of the name as a well-known term shows that the custom does obtain in some degree.¹

169. A man may make a stranger of another clan his *dhundhai* or earth brother, if his near agnates consent, in which case he gives him a definite share of his land on the spot, and the *dhundhai* loses all rights of inheritance in his original family. The ceremony is completed by public declaration of the transfer and the consent, and by the usual distribution of sweetmeats. According to Elliot (The Races of the N.-W. Provinces, Vol. I, page 228) the *dhundhai* could not formerly dispose of his land, but this is no longer the case. But some hold that, if the *dhundhai* has no near agnates, the land reverts to the family of the donor.

Under no circumstances, except as above mentioned, can a land-owner make a gift of land out of the agnate community; and not even within it, except among the Rors; and then if the gift is made in the absence of sons, and a son is born afterwards, it is resumable. Small gifts of land as religious endowments are, however, recognised. Wills and bequests are practically unknown. In old days sales of land were unknown. The right of pre-emption by agnates is universally recognised in the order of right of permanent inheritance, and is almost always asserted by summary petition; but, owing to the uncertainty felt by the people as to the action of the courts, and the costliness of an appeal to them against a purchaser who is usually well off, is often now pursued to trial.²

Musalmans customs.

170. The above abstract of customs applies only to all Hindus and to Musalman Jats, Gujars, Rors, and Kambohs, and to Musalman Rajputs, except the Tanwars of the town of Palsat. These last, who are all Musalmans, and live in daily contact with original Musalmans, follow in many respects the law of Islam. *Per contra* the Saiyids who live in the villages have adopted several of the Hindu restrictions on inheritance and alienation. In both classes, for instance, sons and sons' sons &c., exclude all other heirs. The original Musalmans of the cities follow the law of their faith with very little divergence. The Rains, who are all Musalmans, hold a sort of intermediate position between the two.

(1) The Jats, Rajputs, Gujars, and Rors of Karnal said unanimously that the *dhundhai* could not inherit land.—J.M.D.

(2) Plaintiffs' prices are often inflated in deeds in order to defeat pre-emption.—J. M. P.

171. The inferior proprietor (*Malik adaa*)¹ has full right of property in his holding in severalty, but has no rights of ownership in the common land, the share which appertains to his holding still belonging to the persons from whom he acquired it. This class of proprietors is exceedingly small. In some cases it has been shown that people who do not belong to the proprietary community proper, but who had, by virtue of long possession or otherwise, or by consent, been recorded at Settlement as owners, have been continuously excluded from participation in all special proceeds of the common land, such as compensation for common land taken by Government, as distinguished from the periodical proceeds which the whole cultivating body shares; and these people have been entered as inferior proprietors, their status having been occasionally fixed by judicial decisions. Some few people, too, have acquired land since the Regular Settlement, admittedly in inferior ownership. And a good deal of land in the old cantonments was declared, after full investigation in 1852, to be held as inferior property.

172. When Karnal was first acquired by us, a considerable area of land close to the town was occupied by the cantonments; and this was added to at various times as military requirements expanded, yearly compensation for the revenue so lost being paid to the *Mandala*. When the cantonment was moved to Ambala, the land was occupied for the purposes of a remount depot. But as much of it was not needed, it was decided to give up the whole, and lease from the owners so much of it as might be required. But much capital had been expended in the construction of houses, gardens, and the like; and the properties so formed had changed hands for consideration. It was therefore necessary to recognise the interests so acquired. In his minutes dated 15th February 1852, laying down the principles upon which the revision of Settlement of 1852 should be made, the Lieutenant-Governor remarked as follows:—

"The Government have determined to relinquish the lands of the Karnal cantonments to the proprietors. The lands will revert to the *bisadars*, between whom and the *Mandala* the revenue officer must determine a fair *jama*. All the unoccupied lands will be given up unreservedly to the community of *bisadars*. . . . The houses and compounds occupied by individuals, should be considered as inferior property (*vide* Sec. III, Directions to Settlement Officers), and a fair *jama* fixed upon them, to be paid by the occupants to the *bisadars*, of which *jama* nine-tenths will go to the *Mandala*, and one-tenth to the *bisadars*. If any land is retained by Government as attached to their own buildings, this should be entered as *misal*; and, if it is of considerable extent, a corresponding portion of the payment now made to the *Mandala* must be continued. But if the land retained is of small extent, there will probably be no objection to discontinue all further payment, and leave the matter thus."

(1) Such owners are usually described as *malik* *adaa*, and have been so recorded in the Settlement records of Juhel and Kaithul—J. M. D.

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Tenure of Karnal Government lands.

A careful investigation was therefore made on the lines thus laid down. The area retained as Government property was very small, and remained unsuccess. Certain occupied plots were declared the inferior property of the occupiers, and the remainder common land of the village. In 1855-56 Government declared these inferior properties to be transferable and heritable. Some few of the occupiers who could show no sufficient title had been held to have only a right of occupancy for life, and were so recorded. In some of these latter cases the village has recovered the land on the death of the occupier; in others the heirs are still in possession, and have in some cases judicially established their proprietary right. An area of about 2,100 acres in Karnal and four adjacent villages, was held from that time by Government on a lease at a rental of Rs. 2,604 for the purposes of a breeding stud, and afterwards of a cattle farm. The land has recently been purchased by Government for Rs. 75,077.

Biharlan customs.

173. The deep stream is recognised as the boundary between villages on opposite side of the river all along the part of the Jamna recently under settlement, and has been declared by Government to be the boundary between Karnal and the districts of Saharanpur, Mozaffarnagar, and Meerut (G. of I. Home Dept. Notification No. 136, dated 12th January 1884). In 1878 a considerable cultivated area was given up without dispute by the Tauda people to our villages under the operation of this rule. The custom is recorded in the administration papers on both sides of the river. Mr. Ibbsen writes:—

"In former days a custom existed throughout the riverain villages of the tract, that, when an individual land-owner had his land cut away by the river, an equivalent area from the common land was given him in exchange, the loss being thus borne, as far as possible, by the whole community. Numerous old letters attest the universality of this custom. Unfortunately, the old administration papers are silent on the subject. Yet in 1856 the Government, in concurrence with the Board, ruled that although no provision was contained in the Settlement record, yet the allotment of common land in those cases was borne out by usage, and should be enforced. In preparing our new administration papers, I directed particular attention to the record of this very admissible and equitable custom, wherever it might still be found to exist. In some of the villages it was found in full force, and recorded accordingly; in fact, I know of several instances in which it has been acted upon within the last few years. But in many villages the people declared that no such custom now obtained; and I did not think it right to propose to record for future guidance a rule, however admissible, which they averred was not at present in force. But the decadence of the custom is much to be regretted."

Tenancy and rent in general.

174. Table No. XVI shows the number of tenancy holdings and the gross area held under each of the main forms of tenancy as they stood in 1888-89, while Table No. XXI gives the current

(1) The custom was recorded, I believe, in some of the administration papers of the Jind pargana at the 1st Regular Settlement, but it has largely fallen into disuse.—J.M.G.

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rent-rates of various kinds of land as returned in 1888-89. But the accuracy of the figures given in table XXI is doubtful; indeed it is impossible to state general rent-rates which shall even approximately represent the letting value of land throughout a whole district.

175. The status of the tenant with right of occupancy, which has been the subject of so much dispute, was found to exist in this district in the days of the early Summary Settlements. In 1829-31 elaborate reports on the tenures of the tract settled by Mr. Hobson were prepared for Government on lines laid down by it. From these we find that these tenants included all regular cultivators, whether resident or of another village; and that the tenants-at-will consisted wholly of "village servants, itinerant cultivators, persons who, from a variety of causes, may have temporarily abandoned their village, and individuals who do not make agriculture their chief occupation, such as weavers, barbers, &c. They usually receive from year to year such portions of land as their needs may require, sometimes from the community, but more often from individual members, usually on the condition of becoming responsible for the corresponding portion of the revenue. Occasionally the landlord receives a very trifling amount of rent; but more frequently he shares the produce according to agreement, and is alone responsible for the dues of the State. These tenants are at liberty to give up the land when they please, and are removable at the will of the community or landlord." All other tenants, save those described above, could not be ejected as long as they continued to occupy their lands and to pay their share of the Government revenue. They shared equally with the owners in the proceeds of the common lands, such as the sale of firewood or grass, or grazing dues paid by other villages. The title of the landlord was preserved by "the form of demanding *aria* or one-fortieth of the produce, when perhaps only a few grains were granted as an acknowledgment of holding the land from a superior," or by the tenant paying his share of the village expenses through his landlord, or by the landlord's family priest taking his dues from the tenant also. These tenants, moreover, did not "claim the rights of sale or transfer; but, with the abhorrence with which the cultivating class view the sale of land, they are on an equality in every essential particular with the landlord." The non-resident (*padri*) cultivator even paid only 75 per cent. of the revenue which he would have paid had he been resident, and bore no share of the village expenses; yet he enjoyed equal rights of occupancy with the resident tenant, and, in fact, "possessed every substantial benefit in an equal degree with the owner, while paying much lower rates." The Settlement Officer pointed out that "it was chiefly this good faith which all classes of the community preserve in their dealings with each other," that prevented awkward claims by tenants to proprietary rights, and "rendered disputes very infrequent with respect to property so ill-defined." As a fact these tenants have, in some cases, been declared owners by the courts on the

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granted that the tenants had always enjoyed a share of the common produce, and in apparent ignorance of the fact that such was the almost universal rule throughout the district. The Collector of 1831 who had had long and intimate experience of the people, and whose report was most interesting and complete, discussed at length the apparent hardship to the owner involved in those tenures, especially those of non-resident tenants, and the advisability of recognising his right to rent in some form; but he summed up strongly against it, as opposed to the ideas of the people, and certain to be productive of endless disputes and ill-feeling.

It is curious how slowly this state of things has changed. When the revenue absorbed the whole margin left from the produce after supporting the cultivator, it was natural that rent should be non-existent. In fact revenue was rent, as the use of the terms revenue-free and rent-free are synonymous for lands of which the revenue was assigned shewn. It was not till about 1850 that Government interfered to limit the demand of assignees of land revenue to the Government share of the produce; and previous to that date they took rent from the owners exactly as if they had been landlords themselves. But, as the Government demand was gradually limited to a moderate share of the produce, a margin was left in favour of the producer from which rent could fairly have been taken. As a fact, in the Karnal Nadak, where the Munda assignees took rent from owners and tenants alike till 1847, and where the uncertainty of the yield renders it easier for a man without capital to pay a share of the produce than a share of the revenue, because, although the total amount paid is larger, it is paid in instalments which vary with the means of paying it, tenants, as a rule, still pay a share of the produce (*butai*). But throughout the rest of Panipat and pargana Karnal, except in the city of Panipat and one or two similar revenue-free villages held by non-cultivating owners, where cash, and still more commonly, grain rents have always been taken, and excepting, of course, the Skinner villages, rent is still almost unknown. Mr. Theobald wrote in 1850:—

"I know of hardly a single case outside the cities and the villages already mentioned, in which rent is taken from tenants-at-will even, whose cultivation dates from last Settlement. Tenants of later standing, and especially those who have only lately begun to cultivate often pay rent; in the Khadir perhaps generally. But in a very large number of cases they still pay revenue only; and, where rent is paid, it is generally very much below the competition value of the land. This state of things is, however, gradually changing. The people have awakened to the possibility of demanding rent, a good deal I think, in consequence of Settlement operations, the inquiries attending them, and the new ideas which they have suggested. The change is, however, extraordinarily slow. Even now the great majority of tenants pay no rent; and especially is there a strong feeling in favour of the tenants-at-will of old standing; in fact the people are inclined to deal more leniently with them than with the occupancy tenants, for the former claim

in rights, while the latter do. Of course the equal distribution of persons over the land does, in fact, mean a certain degree of profit to the owners; for they generally hold the best land, so that they pay less for this land in proportion to its value than the tenants pay for theirs; while, on the outlying and inferior portions, the persons thus distributed, especially in the Khudir, is often a very fair rent for the land.

"The difficulty with which the idea of rent is received is well exemplified in the cultivation of the common land. Of course an individual owner cultivating this land is really a tenant holding from the community as a whole. But the idea of taking rent from him is even now, quite beyond the capacity of the people. The owner who breaks up common land will, of course, pay such revenue as the method of distribution of revenue in force will allow to it; but he has by common custom a right to hold the land free from liability of ejectment until a division is effected; and even then the land must be included in his share, except in so far as it exceeds the area to which he is entitled. Cases have been not infrequent in which the people have, at division, allowed individual owners to retain the common land which they had broken up, even though considerably in excess of their share; and it is by no means uncommon for owners to build walls at their own cost in the common land, so certain do they feel of the security of their tenure. In short, as already pointed out, the conclusion is irresistible that, in old times, anybody who broke up new land, or even who was given old land to cultivate, except as an obviously temporary measure, acquired a right to hold that land so long as he paid the revenue on it; and that, whether he were an owner or not. The revenue was so heavy that the village was only too glad to get cultivators to accept land on these terms; and the explanation of the fact that the people even now fail to distinguish between occupancy tenants and tenants-at-will of any standing is, not that old custom failed to raise the ancient tenants approximately to a level with owners, but that it treated both owners and tenants of all kinds alike so far as their right of cultivating possession was concerned. In 1850 the Sadr Board ruled that "the common custom of India gave to the man who reclaimed waste a right to transmit the land to his descendants." That is the common custom here; but what he transmits is the right of cultivating possession, and not of property."

176. Grain rents (*gharat*) are mostly in vogue in the city of Panipat and the few similar villages near it. They are usually paid one-third in wheat and two-thirds in the inferior grains. Cash rents are taken chiefly in the Khudir, either as a lump sum (*malakati*), or a percentage in addition to the revenue (*fauladmat*), or a rate *per bigha*. A share of the produce is taken either by actual division (*hatai*), or by estimate of the yield (*imn*). The owner takes no share of the fodder except when the grain has failed and only fodder is produced. The dues of the *chakars* and the allowances of the Brahman and Saiyid are deducted in *hatai* before the division is made; the dues of other village menials are paid by the cultivator alone. Where a share of the produce is taken, money rates on area for each staple (*saathi*) are generally taken on sugar, cotton, tobacco, pepper, most vegetables and spices, *malai*

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Kinds of rents and other tenants' dues.

and *shari*, grown for fodder only; as in all except the last two, which are purely fodder crops, the produce is not collected at one time and spot, so that division would be difficult and dishonesty easy. In the *Khadir* and *Bangar* the share of the produce commonly taken is one-third on all lands, though the *Skimmers* take two-fifths on unirrigated crops. In the *Nardak* this custom is to take one-fourth only; but irrigated or highly cultivated land, the area of which is very small, is never let on these terms.

The tenants, as a rule, are responsible for providing carts and *badshams* for the use of Government officials. But in the villages they pay no other dues. In the city of Panipat and the similar villages near it they generally pay many miscellaneous dues (*ahars*), such as milk, green wheat for fodder, earth for mending houses, dungcakes, &c.; and the *Skimmers* also take many extra taxes, often making their tenants pay all the Government cesses, the *lashkardari* allowances, the *palamari*'s pay, and a levy on account of expenses of management called *kharcha*. There are some very curious dues paid in the city of Panipat which, though not actually rent, are paid by purchasers of land to the original proprietor from whom they purchased it, in consideration of certain rights of ownership which did not pass with the sale. The principal of these are *dakk rakho* and *dakk ab*. If a man sells his fields, his property in the *daul* or dividing ridges does not pass unless expressly specified; so he takes what is called *dakk rakho* and is responsible for keeping the ridges in order. So again, if the well was not distinctly specified, the property in it does not pass, though the soil in which it stands being no longer his, he cannot get near it to use it. But he takes *dakk ab*, and it is a disputed point whether he cannot forbid the purchaser to use the well. Each of these dues is generally fixed at one-eighth of the rent or owner's share of the produce. Again, if a man wishes to carry water along another's *daul*, he pays *daulana*—generally a lump payment of 5 to 10 *wtis* a harvest.

Tenants and rents in Indri.

177. The last two paragraphs are taken almost entirely from Mr. Ibbetson's Settlement Report, and relate to the state of things existing in Panipat and *pargana* Karnal ten years ago. If the figures in statement XVI are trustworthy nearly two-thirds of the tenants-at-will at Panipat still pay "at revenue rates with or without *satilana*." In Indri it was found at the recent Settlement that 8 per cent. of the land was cultivated by occupancy tenants and 20 per cent. by tenants-at-will. The number of the latter class who pay at revenue rates is less than one-fourth. True cash rents are almost unknown in the *Nardak*, but one-eighth of the land held by tenants-at-will in the *Bangar* and one-fifth in the *Khadir* are cultivated on these terms. The rent rates deduced by Mr. Davis from the statistics of cash rents were:—

Circle.		Chakli.	Barnali.	Satish of Jumna.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
Khadir	...	4 8 0	2 12 0	1 14 0
Bangar	...	3 12 0	2 9 0	...

Zakhi rents are taken for cane, cotton, tobacco, red pepper, and vegetables. The average rates are Rs. 7 an acre for cane, Rs. 6 for irrigated, and Rs. 4 for unirrigated cotton, Rs. 5-4 for tobacco, and Rs. 4-3 for phillies and vegetables. The average for *khajir* is Rs. 2 in the Khudir, Rs. 1-15 in the Bangar, and Rs. 1-8-6 in the Nardak. Most occupancy tenants pay revenue and cesses with a small addition for *malkhana*, but in the Khudir a good many of them divide the *roy* with the landlord.

Tenants-at-will as a rule pay rent in the shape of a share of the produce. In the Khudir one-third is usually paid and in the Nardak one-fourth. In the Bangar both these rates are common. Owners cultivating their land through tenants very often take, in addition to the customary share of produce, certain payments in grain, under the name of *kharch*. These usually vary from half to two sars per maund, and are deducted from the total produce. In considering what the owner and tenant actually receive respectively allowances must be made for the payments made to Brahmans and village menials from the common heap before division. In Rajput villages the deduction on this account amounts to about 12 per cent., and in Kor and Jat villages to about 4 or 5 per cent. of the output. It is difficult to calculate exactly the amounts, some menials being paid as much per maund, and others as so much per plough, but the following table gives a very fair idea of what is paid in a Jat village in the Khudir. It is assumed that a *jana* or cultivating association, owning four ploughs, sows 80 acres of land in the rabi harvest, the being well irrigated; and twenty unirrigated; that the irrigated land yields at the rate of 16 maunds, and the dry land at the rate of 5 maunds per acre. The total produce is, therefore, 200 maunds of grain.

To whom paid.	Rate in sars.	Amount paid.		Remarks.
		Maunds.	Sars.	
Amphal to Brahman Kharoti	1 sar per maund	8	0	* Paid to Brahman who sows 24 for village guards or Government servants.
Pachhal to Brahman	1 " " "	1	10	
Regar Chamar†	1 " " "	12	30	† Highest rates are paid to a Chamar who acts in cultivation.
Bahlal	20 sars per plough	20	0	
Lohar	20 " " "	1	0	‡ This is not really a fixed charge; the dues vary more or less according to the amount of work he does.
Dawal	10 " " "	1	0	
Kankhar	10 " " "	30		
Mikwar	7½ " " "	30		
Nal...	7½ " " "	30		
Dhola	7½ " " "	30		
Chakra	5 " " "	30		
Total		17	30	

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Village Communities and Tenures.

Tenants and rents in detail.

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Village Communities and Tenures.

Tenants and rents in Kaithal.

178. According to the returns prepared at Settlement only 22 per cent. of the cultivated land in Kaithal was in the hands of tenants. Above 8 per cent. was held by occupancy tenants, and less than 10 per cent. by tenant-at-will. The number of occupancy tenants has been increased by the orders recently passed in the case of the Kaithal leased villages. More than half of the tenants-at-will pay only the revenue and cesses. The proportion of such tenants paying competition rents so called in cash or grain is one-third in the Bangar and Andarwar, two-thirds in the Nali, and half in the other circles. One-fifth of the grain rents in the Bangar come from one of the *pattis* of Kaithal, and in the northern half of the circle division of crop is unknown except in one or two canal villages. When a tenant's rent is stated at revenue and cesses it is not meant that he pays the revenue rate fixed at last Settlement, but a proportional share of the demand as spread over present cultivation. Indeed in the Nardak and Bangar a fresh distribution of the revenue over holdings is often made each *haris* according to the area actually under crop. In the Nardak a *haris* on all cattle-grazing in the village is frequently made, and only the balance put on the land. In both circles the Spring crops are as a rule so scanty that the cash demand is but small and repaid with interest out of the proceeds of the *gha*. The *gha* in the rainy season. In the Bangar, Nardak, Nali, and ^{the P in the rainy season} ~~the P in the rainy season~~ is the rate of *batas* for unirrigated crops. When canal irrigated crops are divided the owner takes one-fifth and the tenant pays the occupier's rate. In the Powadh one-third is the usual rate of *batas*, but one-fourth is not uncommon. In all circles both grain and straw are divided, but the owner's share of the straw is sometimes less than his share of the grain. The deduction to be made for grain payments to village menials, etc., amounts to about one-twentieth of the produce.

Zabli rents are rare in the Bangar and Nardak. They run highest in the Powadh where the usual rent for cane is Rs. 2, for cotton, tobacco, and vegetables, Rs. 1, and for *chari*, 5 annas per *kachela bigah*. Cash rents other than revenue and cesses are not often met with, and are very moderate. Kaithal is a country of small holdings and numerous land-owners. Less than 6 per cent. of the soil is cultivated by tenants-at-will who are not also land-owners or occupancy tenants. The competition for land is therefore feeble. Besides where the custom is as uncertain as in the greater part of Kaithal, no man in his senses would agree to pay a high cash rent. Still the rents in Kaithal are much lower than those realized in similar tracts in Hissar. An unirrigated holding rented at more than 8 annas a *patta bigah*, or 15 annas an acre, can scarcely be found in the whole Nardak and Bangar. The smallness of the rents realized for canal lands is very striking.

Many village grants.

179. Petty village grants are not uncommon. Sometimes the land is leased to the grantee at a favourable rent, or on condition of payment of revenue only; sometimes the owner cultivates and

pays the revenue making over the produce to the grantee, while occasionally the grant consists of the rights of property in the land, which, subject to the usual incidents, such as responsibility for revenue and the like, vest in the person performing certain specified services at such times and for so long as he performs them. These grants are most commonly made to village mendants and watchmen on condition of, or in payment for, services rendered, to attendants at temples, mosques, shrines, or village rest-houses, so long as they perform the duties of the post, and for maintenance of monasteries, holy men, teachers at religious schools, and the like. They are called *shahi* grants; are usually made by the village or a sub-division of it, less frequently by individual owners; and are personal to the grantee and transmissible at pleasure, though seldom resumed, and often continued to heirs. The map registers of Indri contained many petty village grants of this description. These have now been put on their proper footing, the assignment being resumed as far as Government is concerned, and the land owners being given an opportunity, of which they often availed themselves, of excluding the land from assignment in distributing the new demand over holdings. The holders of these grants have been generally in Indri recorded as "malik katra." If they cease to do service and the land owners desire to put an end to the assignment, the land should at once be resumed at village rates, and the revenue imposed credited to the *malik*.

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Petty village grants

180. Every village keeps open-house to the country-side. A traveller (*hater*) who has no friends in the village puts up, as a matter of course, in the common-room of the village, and receives food and tobacco free; though he will, if possible, choose a village inhabited by his own tribe. Every Government servant passing through the village is fed in like manner; and, though this custom is a source of considerable expense to villages on the main roads, it is founded upon the feeling of the people, and not primarily upon the extortion of the officials. Hospitality of this sort is considered a social duty, to refuse it is an insult, and a village which was grudging at its exercise would be dishonoured in the sight of its fellows.

Common expenditure of the village

The headmen, when absent on village business, charge their expenses, and often perhaps a little more, to the village account. The village common-room, the village shrine, the drinking well, and other public structures, have to be maintained and kept in repair, and occasionally new ones built. Small religious offerings are made on occasion in the name of the villagers; and a marginal sitting for the first time in the village generally receives some pecuniary help to enable him to start fairly. Process fees (*dadkhara*), too, are levied on the village if the revenue is in arrears. All these and similar expenses constitute the common expenditure of the village called *malha*, literally meaning refuse sweepings, because of the many miscellaneous items which it includes.

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Common expenditure of the village.

There is generally a *headman* appointed as *mukaddamdar* for the village or a sub-division of it: and the headmen draw the necessary funds from him, the accounts being audited by the community when the half-yearly instalment of revenue is collected. The old administration papers of Panipat and *parpura* *karnal* fixed a very high limit, generally 4 per cent. on the revenue, beyond which the headmen could not incur these expenses without the previous sanction of the community. In the papers of Mr. Robertson's Settlement the very much narrower limits fixed by Financial Commissioner's Circular No. 4 of 1860 were inserted. The headmen grumbled loudly; for village hospital accounts for most of the expenses, there must be incurred, and in many of the larger villages the necessary expenses will no doubt often exceed the limits: while among the Jats, at any rate, some of the evil-disposed are tolerably certain to object whenever they have an opportunity of making things uncomfortable for the headmen. But, on the other hand, it is probable that the headmen used often to make illegitimate profits from the *wallas*, realising up to the limits fixed without regard to the expenditure. In Jindri and Kalina the arrangement in force is generally that known as *kachcha mulla*, that is to say, the actual expenditure incurred is recovered from the co-proprietors. So long as the village community is fairly compact, and money-lenders have not a strong hold on the land, this is probably the best plan.

Common income of the village; village dues.

181. The proceeds of the village may be divided into two classes, first are the occasional proceeds derived from the sale or lease of common property, such as the sale of jagral, the lease of pasture to travelling herds of cattle, the sale of the narrow effluence (*ekhi*), which abounds in old homesteads, for the purpose of manure or the manufacture of saltpetre, the small dues sometimes realized from carts which come for dry firewood, the fine often paid by strangers for permission to collect kine, to cut thatching grass, and the like. These are, if of any material amount, generally divided at once among the owners, and the tenants have no share in them. If petty, they are paid into the credit of the general *wallas* accounts. The second class consists of the regular dues, which are included in and collected with the half-yearly revenue account, and in which all revenue-payers, whether owners or tenants, share proportionally. The most important head of income is the *karchi kharid* or hearth tax. This is collected in almost every village, and the usual annual rate is Rs. 2 per hearth; but in small villages, where the common expenses are inconsiderable, it varies with their amount. Thus the fact that it has not been collected at all for several years, when other common income has been sufficient to cover the common expenditure, is by no means decisive against the right to collect. It is paid only by non-cultivators; and *Dakotas*, sweepers, *Dawars*, barbers, and washermen, so long as they exercise their calling, are exempt. It formed part of the old *chunbakhshi* or four-fold

levy taken in old days on *pag*, *lag*, *kurhi*, and *puvelli* or the head-cloth of the men, the waist string of the male children, the hearth of the non-cultivators, and the tails of their cattle; and to which resource was often had to cover losses caused by cultivators abandoning their lands and failing to pay the revenue due on them. A discussion of the real nature of *kurhi karni* will be found in para. 265 of Mr. Robertson's Settlement Report. The above remarks apply primarily to the part of the district which he settled. The dues payable by residents, who are not members of the proprietary body, in Indri and Kaithal villages, have been detailed in the administration paper of each estate.

Besides the hearth tax, there are the grazing dues, *chagui* or *charai*. This is chiefly levied in the Nardak, where pasture is extensive, and non-proprietary often keep numerous flocks and herds. The rate is usually 5 annas per milch buffalo, 1 anna per cow, 2 annas per weaned calf, and Rs. 3 to 5 per hundred sheep or goats. In Kaithal the usual rate is one anna per head for sheep and goats. The cattle of proprietary and all plough cattle are always exempt; and, as a rule, the cattle of all cultivators graze free. This case, when realized in villages with limited pasture, is generally taken only in years when the village expenses are very largely in excess of the common income. It is a payment in consideration of the right of grazing on the common lands, and must be carefully distinguished from the distribution of revenue upon cattle, which is generally adopted in the Nardak villages when a drought has rendered the number of cattle possessed by each a better test of ability to bear the burden of the revenue than is afforded by the acres of fields which have produced nothing. In this latter case the cattle of owners are of course included. Besides these dues there is an annual levy of Rs. 2 upon every oil press, which is occasionally taken; and a small periodical payment is made, chiefly in the Nardak, by every non-cultivator who cuts firewood or *gula* from the common jungles, and is usually quoted at Rs. 1 a year on each axe or *ball-hook* (*gandasa*).

182 Mr. Robertson gives the following description of the six-monthly distribution of the revenue demands in the villages of the tract which he settled:—

When the half-yearly instalment of revenue becomes due, the *malik*'s account is first audited. The list by which the heretic tax is to be levied is then made out, and this is generally so adjusted as to leave a fair share of the general expenses to be paid by the cultivators who are exempt from the tax. The balance so left, after deducting the grazing dues, is added to the Government revenue (*hala*, probably so-called because originally distributed over *gloughs* or *hals*) and cesses; and a distribution (*bachh*) of the whole is then made over the cultivated land. This distribution is almost always by an all-round rate upon acres. The distribution of land according to quality made this method of distribution fair

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Common income of the village; village dues

The distribution of the revenue

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the revenue.

enough in the first instance; but greater or less inequalities have grown up in most villages, and especially some of our new systems lead to very peculiar results in connection with it. Still the practice has been adhered to with extraordinary unanimity, and payment by shares or by ploughs or by proportional rules on sales, are the exceptions. In some few villages the distribution is made on the area actually under the plough in each year; but, as a rule, land entered as cultivated at Settlement is paid for, whether cultivated or not (*khari pars ka dam dawa*). The newly broken up land, if chiefly in the hands of tenants, is included, and sometimes the original Settlement rate per acre is charged on this, with the result of reducing the rate upon the old cultivation. When the land has been broken up by owners it is often not included at all, or not till a considerable area has been broken up, when all land so cultivated up to date is included *cum* for all."

The headmen then collect (*agutaa*) the revenue. Tenants of any standing almost always pay direct; new tenants often pay through the owners even when they pay nothing in excess of the sum entered as due on their land in the distribution list or *farid dat baikh*. Many of the well-to-do pay direct from their private purses; and already the number that do so is considerable, while it is becoming ever day more and more the custom for every one who has the ready money to pay in this manner. Those who have not sufficient cash, or who prefer not to pay direct, pay by *bach*; that is they give in the name of their banker (*soh or rahakar*). The *patwari* then gives each banker a note of the sum due by each of his clients, and the banker pays in the total amount and debits the notes in their respective accounts. The *malda* account is settled, the revenue is paid, the headmen take their allowances, and the *agahi* or collection is at an end."

Agriculture part-
nerships or *teesas*.

183. Much of the agriculture of the district is conducted by means of *teesas*, which are associations of households or individuals, each contributing oxen, or labour, or both, and the whole *tees* working jointly, and cultivating certain lands of which some of the members of the association have the disposal, whether as owners or tenants. The agreements for them are made for the agricultural year, dating from the day after *Puskar*, the 11th of the second half of Jeth. In the Nardak and elsewhere, where the depth of water necessitates a large staff of bullocks, the *tees* often includes seven or eight ploughs of two oxen each; in other places, more often three or four. The shares are called *sajji* (*sajja*, a share); if a man contributes a full plough he is called *ek kaal ka sajji*; if a half plough *hachas ka sajji* from *hachan*, the space in the yoke occupied by the neck of one bullock; if only his personal labour *ji ka sajji*, or share of his person. This last class never contributes land, and are generally *Chowdars*; while a man who contributes land is *oldara* or never a *ji ka sajji*. If a woman, not of the family of any of the landish shares, is admitted, she is called *khurpi ka sajji*, or a share of a hoe, and takes half the share of a *ji ka sajji*.

The distribution of the proceeds and the payment of revenue is conducted in two different methods. In all cases the whole of the produce is thrown together, without regard to the yield of individual fields. Throughout the Nardak, and generally among Rajputs, the whole number of heads (oxen) in the *laas* are counted. The whole of the fodder and the price of all iron used in the cultivation are divided over the oxen equally, the owner of the bullocks taking all the straw. The grain is collected, the seed-grain repaid to the *laas* with interest, and the dues of the *clans* and the religious offerings are deducted. One-fourth of the remainder is then separated as *haidmi kina*, or the share of the ruler; and this is divided among the people who contributed the land in proportion to the area contributed by each, and these people pay each the revenue due on his own land. The remainder is then divided upon the heads of men and oxen; an ox generally taking twice the share of a man among the Rajputs, because the owners provide most of the cattle, while many of the men are non-proprietors; and also in the villages where irrigation is extensive, because the cattle there have much hard work. For this latter reason, an ox sometimes takes twice as much as a man in the spring, and only as much in the autumn harvest, when there is no irrigation. In other villages oxen and men share equally. In all cases the costs of cultivation, except the iron, are divided on these same shares.

In the second method of distribution the accounts of the *laas*, which is also called *raita*, are kept by ploughs, each sharer contributing a certain number of half ploughs. To make up the number of men required for his oxen, a sharer will often take a *ji ka agji* into partnership; but in this case the latter claims from the sharer only, and not from the *laas* as a whole, in which he is only recognised as a man attached to one of the ploughs. The whole costs and proceeds of cultivation, and the revenue due on the whole of the land, are divided equally over the ploughs without any regard to the area of land contributed by each plough. This sort of *laas* is also called *lairsa*. The *ji ka agji* in this case takes from the man who engaged him one-fourth, or if there are already two able-bodied men on the plough, one-fifth of the produce allotted to one plough, and pays the same proportion of the revenue, the division being by heads, and men and oxen sharing equally. He receives no share of the fodder, and pays no share of the cost of the iron or seed. Under this system the *ji ka agji* is entitled to an advance of Rs. 20 to 25 free of interest, and further advances at discretion at reasonable rates from his employer. His account is seldom cleared off, and till it is cleared off he does household work also, so that he becomes attached to his master as a sort of serf, and if a second employer takes him, he is bound to first settle his account with the old employer. The debt is looked upon by the people as a "body debt" (*karie ka karna*); and they hold that they are entitled to compel the man to work till he has cleared it off, and grumble much at our law refusing to enforce this view. In all cases the *ji ka agji* is expected to do much of the hardest part of the labour, such as

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Agricultural partnership in India.

ploughing; and they are much more used by Gujars and Rajputs than by Jats or Raris. Among the latter the women of the family are often counted and get shares, which the *jir* or wife does not.

Where well irrigation is largely developed, the advantages derived from this system of agricultural partnership are very great. It enables the individual owners to keep much more powerful oxen than they could afford to do if each man cultivated his own land only. A *fama* in the Indri Bangar cultivates from 40 to 50 acres of land, about a third of which is probably irrigated. Sugarcane *lacas* (*lolshe la lacas*) are also farmed (see para. 279-280 of Mr. Hibberton's Settlement Report).

Dagwara is the name of a system by which two or more owners club their cattle together, either for the year or for a special job. The united cattle work for each in proportion to the number of oxen contributed; and the partners have no further claims upon one another, each keeping his land and its produce and revenue distinct.

Agricultural labour—
184.

184. Hired labour is made but little use of by the villagers, except at harvest time. The non-cultivating Saiyid and the like, however, often cultivate by servants. A labourer hired by the month or year is called *kudraw*. He gets 18 to 20 mounds of grain a year and his mid-day meal, or Rs. 3 a month, or his board and 8 annas a month, and often has some old clothes given him. A lad will get Rs. 2 a month, and an old man who watches the crops Rs. 1 and food twice a day. They always get double pay in the two harvest months. They are of course very poor, more so than the poorest landowners. Labourers hired by the day are called *masdar*. They get their mid-day meal, and enough corn to give them grain worth about two-and-a-half annas. But in the press of harvest, and specially in the cities, wages often rise to six annas a day or more. The young men of the Narhak, when they have cut their early grain of rice, flock down to the canal and riverain tracts for employment as harvest labourers.

The wages of labour prevailing at different periods are shown in Table No. XXVII, though the figures refer to the labour market of towns rather than to that of villages.

185. Mr. Hibberton thus describes the village *hacker* of Karnal:—

"The village hacker or *Schutar* is a much, and, in my opinion, generally a very wrongfully abused person. Rascalous Jews of the worst type, to whom every sort of chicanery and rascality is the chief joy of life, and in whose hands the illiterate villagers are as helpless as a child, so exact, especially in the cities. But they are well-known, and only had recourse to in the last resort.

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The village money-lender; village banking.

"Nor is the banker himself generally so exacting as he is often said to be. He charges monthly interest at the rate of a *quin* in the rupee—15½ per cent per annum—when his client is a substantial man, and from 25 per cent upwards when the credit of the latter is doubtful. His credits given exceed at a *ser* per rupee more, and debts is at as much less than the market rate. But his chances of loss are often great, the periods of credit are generally long, and at the time of settlement allowances are made and a compromise effected more generally than would be thought possible. * * * * *

In time of drought and famine the banker is the villager's main stay; without him he would simply starve. In fact the function of a banker in a village is very like that of the air-chamber in a fire-engine. He receives the produce of the village, the supply of which is fitful and intermittent, stores it up, and emits it in a steady and effective stream. And if some power is lost in the process, it is only the cost at which all machinery is worked: for force cannot be transmitted from one into another and more serviceable one without some part of it being lost on the way."

186. The *patwari* is in these parts emphatically a Government servant, the *malhubarder*, who corresponds to the Panjab *dearwan*, usually keeping the village accounts. Among the Nardak Rajputs especially, the *patwari* often knows little of the private arrangements of the community. But in the remainder of the tract the *patwari* often has the whole matter of the distribution and collection of Government revenue in his own hands. Still it is wonderful how many of the *patwaris* possess the entire confidence of the villagers. Mr. Hobson writes:—

The village account.

"No doubt a good deal goes on which we should be unable to approve of. I believe that only exceptionally scrupulous *patwaris* ever pay their bill with the village *hundi*, the great majority being free at the expense of the village. But I do not think that a *patwari*, who does so, is necessarily corrupt or extortionate. The custom is in consequence with the habits of the people: the burden is so widely distributed as to be hardly perceptible; and, as the whole contribute equally, there is no temptation to partiality. So long as the *patwari* is impartial and not too luxurious in his style of living, the people are well content to secure at the price the good offices of one who has very much in his hands and are, perhaps, not sorry to have little entries in *hundi*'s account books which can be brought up against him in case of need; and the gratification is continued, as a matter of course, often, probably, without being asked for. But if he falls in these respects, there is trouble. Of course when such a state of things is discovered, it is necessary to take notice of it; but I am not sure that it is always wise to discover it. Even if it should tend to destroy his independence as between the Government and the village—which I doubt, for his appointment rests with Government—it also tends to keep him impartial as between individual villagers; and the latter quality is the more important, because so much the oftener called into play."

187. The *munis* or *haziris* form a very important part of the village community; and nothing is thought to be so effective an

Village *munis*.

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Village Communities and Tenures.

Village menials.

an assertion of the poverty of a village as to say that the *lazzars* have left it. They perform all the *begar*, or work not paid for by the job; and this includes the carted *begar*, or services performed free for Government or the other travelling. For this they are specially paid, and when, in 1826, Lord Hastings issued a proclamation abolishing *begar*, or forced labour as it was called, the *lazzars* petitioned the Collector to revoke the obnoxious order, as, in the Collector's words, "they were deprived of their only means of subsistence, as their services were no longer called for" and their allowance no longer paid them." This is, of course, an exaggeration; and forced labour is sometimes so taken as to be a real injury to the people. But for the ordinary services, which the custom of the country prescribes, the *lazzars* are fully paid by the cultivators, who, and not the menials, are the people to be considered. The payment to menials is made either by a share of the produce, or by a fixed allowance upon the plough or Persian wheel. The *begar* is done by the various *lazzars* in accordance with a *shikar* or rotation list kept by the *thekar* Bania (see para 101).

Chamars.

158. *Chamars* (tanners and cobblers) are in these parts by far the most important class of menials; for, besides their function as artisans, they perform a very considerable part of the agricultural labour. They numbered 54,067 at the Census of 1881 or about 8 per cent. of the total population of the district as then constituted. On the 11th of the second half of Jeth, the day after Dusdara, when the arrangements for the coming agricultural year are always made, the *lazzars* and householders agree how many *Chamars* each wants, and inform the *thekar* Bania, who distributes the various houses of *Chamars* among them by lot. Each *lazzar* then agrees with the *Chamar* whether they will be *hansat* *kar*, or *begar* *kar*, or *arkhar* *begar* *kar* *Chamars*. The house of *lazzar* or *Chamar* (*hansat*—to labour) receives either a twentieth or a twenty-fourth part of the grain produced on the *land*, having no share in any other produce; and for this he provides an able-bodied man to be always at work in the fields, and makes and mends all the boots and leather articles needed by the *lazzar*. The *begar* *kar* *Chamar* receives a fourth or fifty-sixth part of the grain; and for this he provides a man to work in the fields whenever special work is in hand, such as weeding, harrow, &c. He also gives two pairs of boots a year for the plough-man, and two for the woman, who brings the bread into the fields; and one ox-whip (*marka*), and a leather rope (*marka*) to fix the yoke (*gaur*) to the plough, in the half year and does all the necessary mending. The *arkhar* *begar* *kar* *Chamar* takes an eightieth or ninety-sixth part of the grain; and gives *marka* and *marka* half-yearly, mends boots, and does Government *begar*. Besides the above dues, the *Chamars* always have some grain left them on the threshing floor, called *chhar*, often a considerable quantity. The *Chamars* are the carriers of the tract. They cut grass, carry wood, put up tents, carry bond-labour, act as watchmen and the like for officials; and this work is

shared by all the *Chamars* in the village. They take the skins of all the animals which die in the village, except those which die on Saturday or Sunday, or the first which dies of cattle plague. They generally give one pair of hoofs per cow, and two pairs per buffalo skin so taken, to the owner. They and the *Chakras* take the flesh also between them, the most usual division being that the *Chamars* take that of cloven-footed animals, and the *Chakras* that of whole-footed animals and abortions.

189. The *Badhi* or carpenter receives a fixed allowance; generally 40 to 50 *seers* per Persian wheel, or half as much per plough; and a sheaf (*khari*) and small bundle (*qira*) of corn; the sheaf yielding perhaps 10 *seers* of grain and the *qira* half as much. For this he repairs all agricultural implements and household furniture, and makes all without payment except the cart, the Persian wheel, and the sugar press. The wood is found for him.

The *Lohar* or blacksmith receives the same as the *Badhi*. He makes and mends all iron implements, the iron being found him.

The *Kuchar* or porter gets the same as the *Badhi* when he has to provide earthen vessels for Persian wheels. Otherwise he gets 10 to 20 *seers* per plough. He provides all the earthen vessels needed by the people or by travellers; and he keeps donkeys and carries grain on them from the threshing floor to the village, and generally brings all grain to the village that is bought elsewhere for seed or food (*khaj*, *khaj*) or for weddings or feasts. But he will not carry grain away from the village without payment. In Kaithal *Kuchars* do a good deal of the carrying trade in grain.

The *Chakras* or sweepers get a half as much as the *Badhi* or often less, and a share of the flesh of dead animals as already noted. He sweeps the houses and village, collects the dung, puts it into cakes and stacks it, works up the manure, helps with the cattle and takes them from village to village. News of a death sent to friends is invariably carried by him. In villages where the women are excluded, he gets a daily cake of bread from each house in addition; or his allowance is the same as that of the *Badhi*. They are the most numerous class of menials after the *Chamars*. There were 21,388 *Chakras* in the district at the Census of 1851.

The *Jharwar*, *Kahar*, or bearer gets about the same as the *Chakra* and receives a daily sheaf of corn at harvest. He brings water to the temples, and at weddings, and when plastering is being done; and makes all the bakias loaded, and the *goras* or matting and *hijras* or fans, generally of date-palm leaves. Where the women are excluded, he also brings water to the house and receives a double allowance. He is the Librarian of the country.

The *Nai* or barber receives a small allowance, and shaves and shampoos, makes tobacco, and attends upon guests. He also is

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Chamars.

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Other members.

the person to go on messages and enjoys large requisites at betrothals and weddings.

The *Dhobi* or washerman receives as much as the *Barki* in villages where the women do not wash the clothes; but only a small allowance, if any, in others, where he is often not found at all.

The *Teli* or oilman, *Hadasi* or wood-seller, the *Jalaki* or weaver, the *Chiami*, alias *Lidgar*, or dyer, the *Prado*, *Dhoro*, or cotton-merchant, and the *Sapur* or goldsmith, get no fixed allowance, but are paid by the job; usually either by retaining some portion of the material given them to work up, or by receiving a weight of grain equal to that of the materials.

The *Ahasak* is an inferior sort of *Chandra*, who will eat a *Chandra's* leavings (*jada*), while the *Chandra* will not eat his. They often take the place of *Chandras*, and frequently weave cloth.

The *Dam* or *Harna* are the musicians of all, and the heads of the tribes other than Rajputs and Brahmans, whose *Munis* and *Jagis* seldom reside in the district. The *Dam* is the very lowest of castes. There are generally a few *Jagis*—a lay caste of devotees who take the offerings to Shiv and to Guga Pir; and a few *Mahantian* *Jagis* who take the offerings to the Mahomedan saints.

Inhabitants of the village generally.

190. The remaining inhabitants of the village are chiefly Brahmans and *Munis*. The former are the family priests of the people, and even among Mahomedans play an important part in weddings. They live by the offerings of their clients. The *Banias* seldom follow any other calling than that of trade, though a few families cultivate. On *jang*, the day after Holi, they give a ball of *gar*, and on the day of the great *Haroti* a little parched rice or some sweets to the proprietors, in recognition of the subordinate position which they occupy in the village. And on the latter day the *Banias* bring small offerings of articles belonging to the household of each.

All inhabitants of the village have a right to graze a reasonable number of cattle, their own property, on payment of the recognized dues, to collect dry wood for burning, to cut such bushes or grass for thatching or ropes as they need for use in their houses and cattle yards, and to dig mud for bricks, &c., from the village tank. But a small cow for every acre or hill-plot is often taken from non-cultivators where *jangal* is plentiful. Cultivators have ordinarily a right to cut wood needed for agricultural implements and *gads* and grass from the common lands, except in villages where they are very limited in extent and insufficient for the needs of the owners. The manure of the cultivators is used by them in their own fields; but they cannot sell it out of the village. That of the non-cultivators is the joint property of the village; or, if the homestead is divided by wards, of the owners of the ward in which they live. It is kept in great joint stock heaps, and divided

by the owners according to ploughs. The oilmen often pay Re. 1 or Re. 2 on every press to the village.

Non-proprietory inhabitants are the owners of the materials of houses which they built; but not, unless by purchase from the village, of the land on which they stand. But they cannot ordinarily be ejected from land they have occupied in or about the homestead, whether for houses, cattle-yards, fuel heaps, or the like, so long as they reside in the village and pay the customary dues, unless the land occupied by them is needed for extension of the homestead proper; in which case they would be ejected, and have similar ground allotted them a little further off.

191. The pay of the village watchmen is fixed by Government and paid by the community equally upon hearths. But the further duties of watch and ward are performed as follows by the whole adult male inhabitants of the village. There is in every village a *thikar bania*. *Thikar* literally means a shard; and, as late as commonly met with shards, is now used for any rota or roll by which duties are performed in rotation. The *thikar bania* keeps a roll of all adult males except himself and the headmen and their next heirs, who are exempt; and these males have to keep watch in the village at night in rotation, the *thikar bania* warning each as his turn comes round. In large villages there will be several men on duty at once. The roll is revised generally every 12 years to include men who have grown up in the meantime. This duty is called *thikar* par excellence, though the *thikar bania* keeps other rolls, such as the allotment list of *Chumars* and the like.¹

192. Table No. XXXII gives statistics of sales and mortgages of land; Tables Nos. XXXIII and XXXIV show the operations of the Registration Department; and Table No. XXXIX the extent of civil litigation. But the statistics of the transfers of land are for all but the latest years very imperfect, and the returns of the past six or seven years are inflated by the inclusion of old transactions brought to light by an improved system of recording mutations. More reliance can be placed on the statistics for Indri and Kaithal collected during the recent settlement. It was found that in Indri 6 per cent. of the total area of the *pargana* had been sold since 1850, and that 3½ per cent. of the remainder was burdened with usufructuary mortgages, the mortgage debt being Rs. 2,64,864, or about 1½ times the revenue of the whole *pargana*. In considering these figures it must be remembered that in deeds of sale the vendor's share of the common land is usually transferred along with his separate holding, but our returns only show the area of the latter. It is only when we consider this, and bear in mind that but one-half of the area of the *pargana* is cultivated; and that the land sold and mortgaged is usually under village, that the full significance of the figures becomes apparent. The largest purchaser and mortgagor was the late Nawab of Kunjpara. During

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Village Communities and Tanzees.

Inhabitants of the village generally.

Watch and ward, *Thikar*.

Sales and mortgages and extent of civil litigation.

(1) Para. 191 was written originally with reference to Panipat and *pargana* Karnal. I cannot say whether it applies exactly to the rest of the district.

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Sales and mortgages, and extent of arid tracts.

the 17 years ending with 1884 he bought 1,400 acres in the villages of his *fajir* and 1,505 acres were mortgaged to him. 48 per cent. of the sales and 50 per cent. of the mortgages from 1861 to 1884 were to money-lenders, including non-cultivating *fajirdars*, like the Nawab. The value of land in India is very small, but is apparently slowly increasing. All statistics on the subject are vitiated by the entry of fictitious prices in deeds in order to defeat pre-emption, but the following figures showing average prices, founded on an examination of all documents registered between 1863 and 1884, may be accepted as fairly trustworthy:—

Average prices per acre of land sold in India between 1863 and 1884.

CHARGE	1863—1874	1875—1879	1879—1884	1863—1884
	Rs.	Rs.	Rs.	Rs.
Kaithal	17	19½	20	18
Bahawalpur	21½	12	17½	19
Bombay	9½	6½	8	7½
Total	12½	12½	14½	13

530 acres of land in the Bahawalpur, most of it in the best part of the Circle, was taken up about 1874 for the new line of the Western Jamuna Canal. The price Rs. 15,370, including Rs. 1,905 for wells, was fixed by private bargain with the proprietors. The average was Rs. 28½ per acre.

Fortunately the subject of sales and mortgages is not yet one of much importance in Kaithal. Comparing the revenue of the area transferred with the total revenue of the *taluk* before re-assignment, we find that 8 per cent. of the land has been sold since last settlement, and that 6 per cent. is under mortgage. The amount of land under mortgage has only doubled since last settlement, and the mortgage debt is only ¼ times as large as it was then. The mortgage debt is over two lakhs. More than half the sales and mortgages are to agriculturists. In comparison with the state of things existing elsewhere, these figures are satisfactory. But the amount of unsecured debt in many villages is large. In a great part of Kaithal the money-lender looks more to the debtor's cattle than to his land. He has no wish to make a risky investment by taking the latter on mortgage and becoming responsible for the payment of the revenue.

The figures for the different circles are summarised below :—

Circle.	Per cent. of land sold.	Average price per acre.	Per cent. of land mortgaged.	Mortgage debt per acre.
		Rs.		Rs.
Najaf	2	5	3½	7
Bangar Khatol	11	9	4	7
Do. Padowa	4	11	4	9
Andarwar	4	21	13	20
Naili Khatol	4	10	6½	17
Do. Padowa	8	12	7	17
Powath	2	20	5	21

Chapter III, F.

Leading Families and Chaudhris.

Place and number of families and extent of civil litigation.

The amount of the transfers is largest in the Naili, which is the only unprosperous part of the tahsil.

The apparent high proportion of mortgage in the small Andarwar Circle need not cause any anxiety. Very many of the mortgages seem to be old ones existing at last Settlement, and still unredeemed. The revenue of the land under mortgage at last Settlement was Rs. 1,827, that of the land now under mortgage is Rs. 2,051.

SECTION F.—LEADING FAMILIES AND CHAUDHRIS.

193. The principal families in the Karnal district are—the Kunjpura family, the Maudals of Karnal, the family of the Bhais of Arnaut and Siddhuwal, the Sardars of Shaugurh, Sikri, Dhansura, and Lalikari, the Panipat families, and the Skinners.

Principal families.

194. The founder of the Kunjpura family was a Pathan named Nijamat Khan. His ancestor came from Kandahar, and

The Nawab of Kunjpura.

Chapter III, F.

Leading Families and Chaudhries.

The Nawabs of Kunjpura.

founded a village in Simla called Gurgusht,¹ which he held in jagir. Having left Simla in consequence of family quarrels, Nijabat Khan with his follower Mahmud Khan came to seek his fortune in Hindustan. He entered the service of Munna Khan, Wazir of Lahore, and in two years was a commander of horse, when he came down to Wazir Khuraja Nasiruddin, of Radaur. Here he became a *Risaldar*, sent for his family, and fixed his headquarters at Tirahri; one of the *zamindars* of the villages of Bidauli who had quarrelled with his relations, begged the assistance of his soldiers and gave him the *hauzdari* of Kunjpura, which was then a swamp of reeds. Nijabat Khan got some leases of the surrounding villages from the authorities, and gave them to Mahmud Khan, who wanted to build at Kunjpura. The Rajputs destroyed all he did. Nijabat Khan brought his troops over from Tirahri and settled them at Kunjpura, and from that time a deadly enmity sprang up between the Rajputs and Pathans. About 1729 A. D. a masonry fort was built at Kunjpura after a hard fight. The fort was first called Nijabatnagar. The cruelty of the Afghans having reached the ears of the *Chakladar* of Saharanpur he sent for Nijabat Khan; he refused to go, a force was sent, and the *Chakladar* Izmat Khan was killed by one of Nijabat Khan's relations. The power of the Afghans increased, and Nijabat Khan made himself master of other lands. The Delhi Emperor hearing of

Villages.	No. of Villages.
Bidauli	Including Shahabnagar or Kunjpura
Karnal	4
Thanesar	20
Mahabul	24
Rasul	3
Azamabad	45
Tirahri	15
Unknown	2
Total	150, valued at 5 or 6 lakhs of rupees. ²

the death of his *Chakladar*, sent for Nijabat Khan through Miraj, Governor of Panipat, who enticed him to Panipat, and sent him a prisoner to Delhi, where he remained for a year. Khwaja Jafir was sent to Kunjpura but was put to death by the servants of Nijabat Khan. Nawab Bangash of Farrukhabad interceded for Nijabat Khan, and he was released; and his estate Nijabatnagar, and other villages in number as noted in the margin, were granted him in jagir on condition of his restraining the Jats and Rajputs, who were taking advantage of the weak

state of the empire to give trouble and commit excesses.

On the invasion of Nadir Shah, Nijabat Khan supplied him with provisions and tendered his obeisance; he became a *Risaldar*

(1) "The Kunjpurias are credited in the earlier Government records as having come from Gurgusht in the Hindu country." By Hindu is, probably, intended in this case the country of the Upper Indus, for the large village of Gurgusht in the Rawalpindi district is close to the Indus or Ravi river in the (Peshawar) north-east of Attock; and the Pathans of Gurgusht are especially given to claiming kinship with the Kunjpura chiefs. Thus in 1860, on the death of the late Nawab Muhammad Ali Khan, a Gurgusht deputation duly appeared at Karnal to offer condolences, and to take back with them the presents such attention was found to secure."—*Musee's Punjab Chiefs*.

(2) This valuation is doubtless, necessarily, exaggerated.

of 1,000 *sheets*. The Mahratta army under Jhankar Bhanu plundered Kunjpura, when Nijabat Khan was wounded, taken prisoner, and died, some accounts say was slain, aged 75, at Panipat, in A. D. 1758. Ahmed Shah imposed the Mahratta in A. D. 1758, and established Daler Khan, Nijabat Khan's eldest son, at Kunjpura, having first enriched him with spoils from the Mahrattas. Daler Khan enjoyed his possession for 16 years, and died in 1778 A. D. He was followed by his son Gulsher Khan. Daler Khan and Gulsher Khan had a hard struggle to maintain their position against the invading Sikhs, and some of the family possessions had to be surrendered. In some cases part of an estate was kept while the remainder was given up; and the revenues of Tinori, Singolus, and Garhi Gujaran, Gargari, Jauwaran, and Bahadurpur are still shared between the Nawab and Sikh *feudalists*. Gulsher Khan died in 1804 and was succeeded by his eldest son Rahmat Khan; several villages were given to his brother Muhammadin Khan in maintenance, but on the death of Muhammadin Khan, the number of villages was reduced to one, the fine estate of Bares, and some land in Kunjpura, which were afterwards held by his son Muhammad Yar Khan. On the death of the latter Bares reverted to the Nawab.

Rahmat Khan died in 1822, and was succeeded by his eldest son, Bahadur Jang Khan, who died childless 12 years after, and was succeeded by his brother Ghulam Ali Khan. The latter died in 1849, when his son Muhammad Ali Khan became Nawab. On his death in 1856 his eldest surviving son, the late Ali Khan, a boy of six or seven years of age, succeeded. He is now being educated at the Aitchison College, and the estate is under the charge of the Court of Wards. In 1800, during his father's lifetime, Bahadur Jang Khan was awarded a life *jagir* of seven villages in *pargana* Karnal by Lord Lake. This grant was valued at Rs. 2,000, and lapsed on Bahadur Jang Khan's death. In 1811 Nawab Rahmat Khan's *jagir* was valued at Rs. 12,000. The present value of the assignment after deducting service commutation is Rs. 30,000, but this includes a small *jagir* enjoyed by a minor branch of the family. The large estate of Kunjpura in the Indri Khadir and lands in Mayasarnagar and Saharapur were inherited by the late Nawab and he acquired a considerable area of land in *parganas* Indri and Karnal by sale and mortgage. The proprietary holdings comprise the whole of twelve and portions of forty-six villages. These yield a rental of Rs. 28,000 while the miscellaneous income from house rents, &c., is about Rs. 14,000.

For the last 50 years the family has been distracted by internal dissensions, the younger members being at constant feud with the Nawab for the time being about the amounts assigned to them as maintenance.¹

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Leading Families and Clans.

The Nawab of Kunjpura.

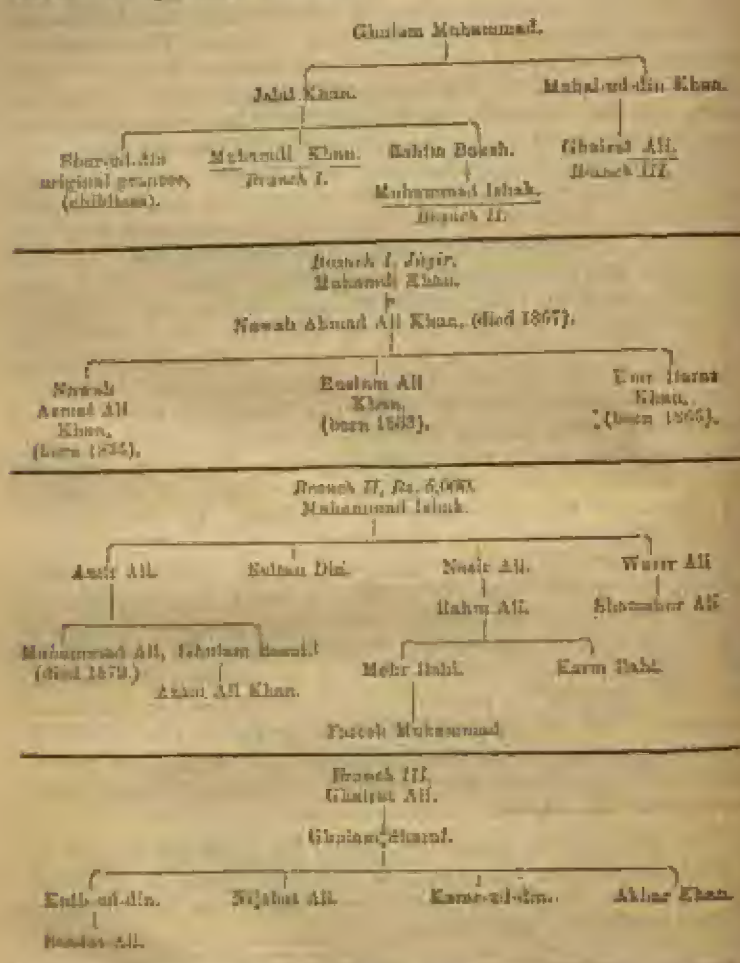
[1] For a fuller account of the family and for its genealogical tree see *Maas-ul-Jamia*, from the proof sheets of which part of the information given above has been derived.

Chapter III. F.

Leading Families and Clans.

The Mandal family.

195. The Mandals, or as they are sometimes called Marhals, are said to be a family of Mula Jats, or Jats who have been converted to Islam. They generally call themselves Pathans, and they affect the Pathan suffix of Khan to their names. They also sometimes assert that they are of Rajput descent, and the poor Musaham Rajputs occasionally marry their daughters to them: but under no circumstances would a Rajput marry a Mandal woman, and the latter marry only within the family, which being very limited in numbers, many of the girls remain unmarried. There is no doubt that they are of Jat origin, and came originally from Sagiana in Patiala. The family tree is given below so far as regards the Karmal family, daughters are not shown in it:—



(1) According to the Census Report, Ghulam Ahmad was born in 1834.

In 1780 A.D. Nawab Majid-ud-daula granted to Nawab Sher-ud-din Khan the *sikals* of Muzaffarnagar, Shoran, and Chitrawal in the Muzaffarnagar district, on condition of his furnishing for Government service 200 horsemen fully equipped; and on the death of the grantee in 1780, the grant was continued on the same terms to his brother Muhamdi Khan by Daulat Rao Scindia. In 1806 this Muhamdi Khan, with his nephew Mahammad Iahak and his cousin Ghairat Ali, was in possession of these estates; and, in accordance with the policy of Lord Cornwallis (para. 57), they were induced to consent to an exchange of their possessions in the Doab for an equivalent tract west of the Jamna. They accepted the proposal with reluctance; and it is said that the estimate that they submitted of the yearly rental of the Muzaffarnagar estates, which they valued at Rs. 40,000, was much below the truth, the Collector of Saharnpur estimating the real income at Rs. 65,000. The 63 villages in *pargana* Karnal, which were then assessed to Government revenue, were estimated to yield Rs. 48,000 yearly income; and in order to induce them to accept the exchange the more readily, it was arranged that they should receive so much of *pargana* Karnal as had not been already granted to others, comprising very many estates not included in the above estimate, and should relinquish the Muzaffarnagar service grant, Muhamdi Khan retaining, however, a smaller separate *jagir* in that district, which had been assigned to him personally.

The transfer was effected by a grant signed by Lord Lake and dated 24th March 1806, which assigned to them in *jagir* the whole of the *pargana* with its fortress and town, with the exception of the *syar*, *mag*, *jagir* villages, *yamin*, *panath*, &c.

The Maudals accepted the grant, but begged that some provision might be made for their children; and proposed that the *pargana* should be continued to their heirs on a fixed quit rent. The Supreme Government which, as before remarked, was only too anxious to get rid of lands west of the Jamna, and wished to make what was felt on both sides to be really a compulsory exchange acceptable, then added a supplementary grant, also signed by Lord Lake, and dated 9th April 1806, by which the grant was continued to their heirs "in *talukdar* on condition of paying for the same an annual rent of Rs. 15,000."

In pursuance of these grants, the three assignees were put in possession of the *pargana* on the 15th July 1806. The first was shortly afterwards resumed on military grounds, and Rs. 4,000 compensation paid for it. The Maudals immediately began to quarrel with each other, the chief matter of dispute being Muhamdi Khan's claim to be considered the head of the house. On the 16th July 1807 they divided the villages among

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Leading Families and Clans.

The Maudal family.

(1) Translations of such *chawans* will be found in paras. 212 and 220 of Mr. Wilson's Settlement Reports.

Chapter III, P.

Leading Families and Chaudhairs.

The Mandal family,

themselves by a deed attested by the Resident at Delhi, according to the following estimated annual value:—

	Rs.
Maharaj Khas	15,000
Gharas Ali	13,000
Ishak Khas	12,000

the city of Karnal and one or two other estates being still held joint.

Neither of the original grantees had given any detail of the villages granted; but a list of the 63 villages assessed to revenue and estimated to yield the Rs. 48,000 was on the file; and in 1816 the Principal Assistant attached all the villages not included in this list, which constituted a very large proportion of the whole *pargana*. The Resident demurred, but held that the heirs (and one of the original grantees had just died) could certainly only claim the specified villages. The matter was referred to the Supreme Government, which in its letter of 15th March 1817 declared that the records at headquarters clearly showed that "the intention of Lord Lake, which was confirmed by the Governor-General in Council, was that the Mandal chiefs should hold the *pargana* of Karnal 'in jagir,' and their descendants in *hereditary* on the terms of 'the second grant.' The voluminous correspondence which ensued on the subject gives very full particulars of the history of the grant; and the papers forwarded with Supreme Government of India letter of 15th March 1817 to the Delhi Resident, which forms a part of it, show clearly that by 'descendants' was meant 'descendants to perpetuity.'

Minor assignments of revenue within the Mandal holding.

196. In 1842 it was found that the Mandals were enjoying the quit rent of the two villages of Gull and Wairi, which were assigned at a fixed demand to a *Bhingi* monastery in the former, and its branch in the latter village. Wairi was many miles from *pargana* Karnal; but Government, N. W. P., in its No. 1333 of 29th July 1852, directed that they should continue in enjoyment. In 1852 a question was raised as to who should enjoy the revenue assessed upon the subordinate revenue-free tenures which had been expressly excluded from the grant, in the event of their resumption. The Government, N. W. P., in its No. 2636 of 26th June 1852, ruled that, though the Mandals were not entitled as of right to such revenue, which properly belonged to Government, yet the revenue assessed upon resumed revenue-free plots of less than 50 *bighas* might be relinquished in favour of the Mandals; that entire villages, when resumed, should invariably lapse to Government; and that intermediate tenures should, in the event of resumption, be specially reported for orders in each case. Half the villages of Baholpur and Dugar Mazra have since been resumed, and have reverted to Government, while

a resumed holding of more than *50 bighas* was reported, and the assessed revenue, which amounted to Rs. 14 mly., was, under the orders of Government, made over to the Mandala.

197. In the mutiny Nawab Ahmad Ali Khan did admirable service, and the Government of India, in its No. 1341 of 24th March 1858, to the address of the Chief Commissioner, Panjab, remitted the quit rent of Rs. 5,600 payable by him in favour of "him and the heirs males of his body lawfully begotten in perpetuity," thus converting his *istawari* tenure into a *jagir*. But the actual words of the grant would seem to be to "him and his male issue from generation to generation," and it is not clear that there was any limitation as to legitimacy. At any rate the two brothers of the present Nawab Asmat Ali have been declared to be lawfully begotten.

198. In 1860 the Government of India affirmed the advisability of instituting primogeniture in tenures of this nature: the Panjab Government inquired the wishes of Nawab Ahmad Ali (see Government Circular No. 2 of 25th May 1860); and it has been held by the district court in Asmat Ali's case of 1880 that Ahmad Ali executed an agreement to that effect, which had no binding value.

199. No sooner had the Mandala family settled in their new home than they began to quarrel among themselves, and their descendants have followed their example with ardour. The family was too new and too limited, and their new style of too recent origin, for any custom worthy of the name to have grown up; and each was anxious to make for all the rules which suited his particular predilections or interests. By 1845 these disputes had risen to such a pitch of acerbity that they reached the ears of Government. For the next 10 years the Collector, the Commissioner, and even the Lieutenant-Governor himself, vainly endeavoured to induce them to come to some understanding, and to agree to some set of rules which should regulate the future interests of individual members of the family. In 1850 a proposal was before the Supreme Government for legislation which should make such family arrangements binding; and the paper to be drawn up was at first intended to be brought under the proposed law. Later on, nothing further was contemplated than to obtain an agreement to which the courts would probably attach more or less weight, and which would, at any rate, be acted upon privately.

In 1848 arbitration was resorted to; in 1850 a code was drawn up; but in neither case was the consent of all the Mandala secured. In the minute laying down lines for the revision of assessment of 1852, the Lieutenant-Governor urged further efforts to induce them to agree upon a code of rules, if they refused "they must be left to fight their own battles, and ruin

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Leading Families and Clans, &c.

Conversion of part of the *istawari* into *jagir*.

Primogeniture among the Mandala.

Removal of Mandala custom.

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Leading Families and Chaudhrias.

Secret of Mandal custom.

themselves." In 1852 and again in 1855, further drafts were prepared; but again objections, more or less frivolous, were raised. To the last code only one objection was raised and that only by one member of the family. Nevertheless, apparently overruled by the failure of all attempts to obtain complete agreement, Government abandoned the attempt to frame any administrative paper for the Mandals. In Government No. 3826 of 23rd December 1855, laying down the lines on which the revision of 1856 was to be conducted, the Lieutenant-Governor wrote:—

"It is not in the power of Government to compose these differences and to establish definite rules by any arrangement prescribed by means of its own authority. The *intamari* tenure is subject in all respects to the ordinary operation of the laws and courts; and the hereditary grant, by the Sanad of 9th April 1806, is generally to the 'heirs' of the three first grantees. The claims of all persons who may be entitled to any portion in the inheritance must be received and determined by the court. The proposal to form a binding *diar-ul* and under the superintendence of the Government officers can therefore no longer be persisted in, and the subject must be left to the voluntary agreement of the parties themselves, or to the courts for judicial decision."

This was written, of course, long before the Pensions Act of 1871; but the principle here affirmed has been followed by the Punjab authorities in their action in the case of Azmat Ali Khan (See Punjab Government No. 570 of 4th May 1878). Appendix A to Mr. Ibbetson's Settlement Report contains a complete abstract of the various customs of the family as fixed by the arbitrators in 1848, and as agreed to or dissented from in the four codes dated 1st April 1850, 30th October 1850, December 1852, and 24th July 1855. A discussion of the nature and incidents of the Mandal tenure will be found on pages 212—215 of Mr. Ibbetson's Settlement Report.

Present condition of the Mandals.

200. The constant and bitter disputes which have been rife among the Mandals ever since their first settlement in Karnal, have had the effect which might have been expected upon their position as a family. Other causes, too, have contributed to their decay. As each generation increased the number of the family, the sons, all sharing in the inheritance of the father, not only were relieved from the necessity of earning their livelihood, but also felt it incumbent upon them to keep up as far as possible the style which was traditional in the family on a reduced income which was quite insufficient for the purpose. Being almost without exception uneducated, they fell wholly into the hands of an unscrupulous band of rapacious stewards, who found their interest in introducing them to money-lenders as unscrupulous as themselves. The decadence of the family began early. In 1817 Sir Charles Metcalfe wrote:—

"They have suffered much since they were established in Karnal; and the period of their transfer from the Doab was the commencement of the decline of their prosperity. Their respectability,

in all external appearances, has been dwindling away before my eyes in the course of the last ten years. It may be said with justice that their decline is in some measure owing to their own mismanagement, as they received an extensive district capable of great improvement. It must, however, be admitted that something unfavourable in the change must also have operated; otherwise why did not their mismanagement ruin them in the Doab, where I remember meeting them in 1805, equipped in a style of considerable pomp and splendour? Their present appearance is very different: and their tone of mind since 1806 has invariably been that of complaint."

Of course the position of a *jagirdar* was very different under Native and British rule; and this difference would have been felt even if the Mandals had remained in the Doab. On the point of mere income, they have little to complain of. The revenue of the assignment at different periods is shown below:—

Year.	Assessed revenue.	Owner's share.	Total revenue.	Quit rent.	Net revenue.
	Rs.	Rs.	Rs.	Rs.	Rs.
1806, estimate ...	39,040	—	40,000	15,000	25,000
1817, settlement ...	1,01,980	—	1,01,980	15,000	86,980
1852, revision ...	1,00,501	—	1,00,501	14,000	86,501
1856, do. ...	80,257	—	80,257	14,000	66,257
1874, current demand ...	80,033	—	80,033	10,000	70,033
1883, revision ...	60,670	14,200	75,250	10,000	65,250

The assessments of 1847 and 1852 were never really realised, so that the reduction effected since then is partly nominal. Even excluding from account the remission of Rs. 5,000 quit rent in 1858 on account of special services, the net revenue is still Rs. 80,257 against Rs. 25,000 estimated in 1806. And the Doab was so comparatively fully developed in 1806, and the limitations of the Government demand which have been introduced since have been so considerable, that it is highly improbable that the revenue of their old holdings will now amount to so much as that of their present estate.

The present Mandals are by no means favourable specimens of Indian gentry. Ahmad Ali was a thorough gentleman, and a fine, intelligent, and active man. Muhammad Ali, who is just dead, retained much of the old style. But Azmat Ali, the present Nawab—for only the head of the family has a right to the title, though the other members are commonly called so—has been unfortunate, as all his father's care was spent on his elder brother, who died before him; and Azmat Ali is uneducated and unintelligent, though thoroughly amiable and respectable. His legitimatised brothers have gained a decree for two-thirds of his estates and four lakhs of rupees profits; and the result must be disastrous. Of the other members of the family, too many are ignorant, dissolute, unintelligent, and wantonly extravagant, and their estates are heavily encumbered.

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Leading Families and Chaudhries.

Present condition of the Maudla.

with debt. Even now the adoption of primogeniture would go far towards saving them; but in default of this, it is to be feared that they must inevitably degenerate into a horde of petty assignors, such as we have in Panipat.

The present state of the grant is shown below.

The revenue is that of the whole estate, inclusive of subordinate assignments, *issars*, and the like.

No. of family.	No. of holder.	Name of Maudla holder.	No. of villages.	Assessed revenue.	Owner's rate.	Total revenue.	Quit rent.	Share of joint property.
				Rs.	Rs.	Rs.	Rs.	Rs.
I.	1.	Narab Armut Ali Khan, with his two brothers	25	19,712	4,513	24,225	...	1
	2.	Husam Ali Khan,						
	3.	Umri Darna Khan in equal shares						
II.	4.	Azad Ali Khan	23	9,407	1,630	11,037	2,300	2
	5.	Fateh Muhammad	6	3,000	1,430	4,430	1,200	1
	6.	Karam Baki Khan	...	...	...	...	...	...
	7.	Shamsher Ali Khan	10	6,371	735	7,106	1,200	1
		Total of family	41	21,034	3,800	24,834	3,000	4
III.	8.	Badar Ali Khan	7	5,471	1,000	6,471	1,250	1
	9.	Karam-ud-din Khan	8	3,681	2,111	5,792	1,250	1
	10.	Sajjad Ali Khan	71	5,293	735	6,028	1,200	1
	11.	Alwar Khan	7	4,498	1,020	5,518	1,250	1
		Total of family	90	19,019	6,866	25,885	3,000	4
		Total of estate	63	60,070	14,995	75,065	10,000	12

The Bhaia of Armut and Siddhawal.

301. An account of the Kaithal family, the present representatives of which are Bhai Jarnar Singh of Armut and his cousin Bhai Anokh Singh of Siddhawal, has been given in para. 62. The net revenue of their jagirs, after deducting commutation, is:—

Armut	...	...	...	Rs. 12,712
Siddhawal, including revenue of Sudladi villages recently transferred to Bissur				19,000

(1) 6 estates are shared equally between the three families, 10- $\frac{1}{3}$ shares each. Nos. 1, 5 and 6 have one estate jointly, No. 4 having one-half, and Nos. 2 and 3 one-quarter each.

Both the Bhaits have small *jagirs* in Ambala and Ferozepore, and Armooh has a *jagir* of the net value of about Rs. 1,600 in Ludhiana.

202. The Shamgarh family derives its origin from one Kirpal Singh resident of village Gudha in *pargana* Bhatinda. When a boy of 10 years of age, he came to Ladwa with his father Mair Karni, who was wedded to Sahab Singh, brother of Gurdit Singh, Raja of Ladwa. Shamgarh was bestowed upon him in reward for the services rendered to the confederacy of Sikhs in the conquest. This estate was in his direct possession when General Lake arrived at Karnal in the year A. D. 1804. Kirpal Singh died in 1830, leaving as his heirs Deva Singh and Fattah Singh, who subsequently divided the estate. Fattah Singh's share, known as the Soga *jagir*, is now held by his grandson, Sarupram Singh, a child of five years of age. The rest of the original *jagir*, which retains the name of Shamgarh, is in the possession of Ram Singh, son of Deva Singh. He is a well behaved man, but he has unfortunately run into debt, and does not live on good terms with the *ministers*. He and his brother Zamb Singh who died childless did good service in the mutiny, and got a remission of the commutation for one year.

203. The present Sardar of Sikri is Tilok Singh, a young man of 23 years of age. He succeeded in 1862 on his father's death, who left the estate in a very embarrassed condition. He is the descendant of Bhag Singh, a *tardar* of the Raja of Ladwa.

204. The Sardars of Dhannura and Labkari are descendants of Sada Singh, an officer of the Maharaja of Patiala, who was put in possession of Dhannura, when the Maharaja wrested it from the Nawab of Kunjpura. Sahab Singh was in possession of the whole estate, which consists of nine villages, seven in Karnal and two in Ambala, in 1809, when the Cis-Sutlej chiefs were taken under the protection of the British Government. He died in 1842. After his death a complete division of the estate was made between his son, Natha Singh, and grandson, Amr Singh. The villages assigned to the latter were henceforth known as the Labkari *jagir*. Natha Singh and Amr Singh both did good service in the mutiny. The latter died in 1887. Sardar Natha Singh's share is now in possession of two of his sons and three of his grandsons.

205. The net income of the *jagirs* of the Andri *pargana* and Kaithul *tahsil*, after deducting commutation, is shown in the annexed statement. The term *major jagir* is meant to indicate that the assignment falls under the description of "large estates" as defined in a letter No. 207, dated 31st January, 1882, from the Secretary to the Board of Administration to the Commissioner, Cis-Sutlej States, (see Punjab Revenue Circular No. 37, paras. 76 to 77).

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Loading Fami-
lies and Chau-
dhris.

The Sardars of
Shamgarh.

The Sardars of
Sikri.

The Dhannura and
Labkari Sardars.

List of *jagirs* of
pargana Andri and
tahsil Kaithul.

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Leading Families and Chaudris.

List of names of persons in and about Rājshah.

Class.	No.	Name of Jagir.	Revenue in Rs.	Date of commutation.
Major jagirs.	1	Kanjura	80,000	1854
	2	Arundel	12,512	Do.
	3	Endellwood	2,041	Do.
	4	Widdowson	2,706	Do.
	5	Latham	2,142	Do.
	6	Shangrath	2,070	Do.
	7	Waga	1,000	Do.
	8	Wili	2,000	Do.
	9	Barwell	1,000	Do.
	10	Aspinwall	800	Do.
	11	Edgar	200	Do.
	12	Adams	400	Do.
Patidari jagirs.	13	Parti Jhunjhunwala—Zail and Jagir.	128	1854
	14	" " " " " " " "	700	Do.
	15	" " " " " " " "	2,100	Do.
	16	" " " " " " " "	1,275	Do.
	17	" " " " " " " "	1,200	Do.
	18	" " " " " " " "	2,040	Do.
	19	" " " " " " " "	700	Do.
	20	" " " " " " " "	80	Do.
	21	Parti Bahadur	747	Do.
	22	Khan	1,477	Do.
	23	Makhsu	465	Do.
	24	Khan Bahadur	2,277	Do.
	25	Bachpur	75	Do.
	26	Pawala	570	Do.
	27	Scabhi	404	Do.
	28	Hanskot	100	Do.
	29	Bai Jiwari	507	Do.
	30	Palsarpur	1,000	Do.
	31	Multhpur	40	Do.
Jagirs in perpetuity.	32	1 panna	200	Do.
Jagirs for life or less or for limited periods.	33	Jhunjhunwala	500	Do.
	34	Dunlop—Kandahar	310	Do.
	35	Alam	110	Do.
	36	Arjunpur	120	Do.
Total			85,410	

All these jagirs are held by Sikhs, except Nos. 1, 32, 34, and 36. In all the patidari jagirs except No. 31 the assignees have the status of 1809 (Punjab Revenue Circular 37, para. 65).

The Revenues of the villages of Ranthali, Ateln, Ladana Baha, and Bhundachari in Kanjura have been released in perpetuity in favour of missionaries, and that of Pili in favour of certain Brahmins of Ambala and Ferozepore.

(1) Includes a village jagir of 24 villages held by the descendants of Khem Ali Khan. The value of the rate of commutation charge is Rs. 100, also included in Bana, which reverted to the Nawab on the death of Mahomed Ali Khan (para. 104) and in other villages, which were formerly included in Bana.

(2) In No. 30 this status has not been given in express terms, but as the jagir is released in perpetuity to the descendants of a lady who died in 1809, it seems to be the same.

306. When the tract was first brought under settlement, the Colonel James Skinner, who made such a name for himself as a leader of irregular horse in the earlier years of this century, and whose biography written by Mr. Fraser forms such an interesting sketch of those times, obtained in turn a considerable number of villages, for the most part small ones, which had been more or less abandoned by the communities who spread them. He also took up the engagements for several of the larger villages, the proprietors of which had refused to accept the settlement. His management was vigorous and successful, he expended a great deal of capital in extending cultivation and introducing irrigation, his careful personal supervision ensured the success of the undertaking, and the Government officials of the time constantly bore hearty testimony to his qualities as a landlord. The people, who know him as Silaudar, speak no less admiringly of him. Their common expression with regard to him is "*wah to badshah ka*"—"Ah! he was a king." He was a strict landlord, insisted upon receiving his dues, and made his speculation exceedingly profitable; he ruled his villages with a strong hand, and stories are still current of the evil fate that befell malcontents who complained against him. But he understood and liked the people, and treated them as they would be treated; he was personally known to all of them; he managed them through their own elders and made much of the husbandmen; and he knew how far a little reasonable liberality goes, and by distribution of turbans, a supply of sweetmeats for all who came to him on business, by keeping his ear open to all grievances, and giving substantial ready relief in really bad cases, he won their hearts and their confidence.

207. At the regular Settlement many of the large villages which he then held agreed that his farm should be continued, and refused to engage themselves. Most of the small villages, which had come to him in a very low state, were then fully occupied by the original owners, such of them as had abandoned their homes having returned on matters improving. Mr. Fraser, the first Settlement Officer, offered engagements for these villages to the resident owners; but the Commissioner quoted a ruling of the Sadr Board to the following effect:—

The reclaiming of waste land had always been considered by natural law and right to confer the best title to property. In this country reclaiming waste land by the permission of the Government has always, as far as the Board is aware, been taken as the best title. Under this view nothing can be more erroneous than the course which, at a certain interval, appears to have been followed in the ill-fated policy of taking away lands from those who had reclaimed, possessed, and continued to occupy them, and giving them to those who came forward when they found a valuable property created to their hands, as the ground of ancestral traditions of national or ancestral possession. When land has been deserted, left waste, and returned to its natural state, and no one is found on the spot to maintain a claim to property or possession, it is the

Chapter III, P.

Leading Families and Clans.

The Skinner family.

Acquisition of villages in perpetuity right by the Government.

Chapter III, F.

Leading Families and Clans—*Chaudhries*.

Acquisition of villages in proprietary right by the Skinner.

undoubted right of Government, whose duty it is to promote the perfect cultivation of its territory, to authorise any person who is willing to occupy the waste, and such occupation ought, both in practice and policy, to be considered the owner.

This ruling referred to lands in Bariana, which had been "settled and reclaimed by emigrants from foreign parts;" and the villages here in question had been settled and reclaimed by the original owners, with the assistance of Colonel Skinner. The settlement officer, therefore, vigorously protested against the application of the rule; but the Commissioner directed that the engagement for the revenue should be made with Colonel Skinner, leaving the owners' claims in the records blank. His merits as a landlord were well-known, and in only two cases was any effort made to dispute these orders. The settlement of all these villages was made with Colonel Skinner at specially reduced rates, in consideration of the capital he had expended upon them. Colonel Skinner died in December 1841; and his eldest son, Major James Skinner, succeeded to the management of the family estate. The management would appear to have changed for the worse; for in 1853 the Collector reported that every single village complained of it. A few years later Major Skinner died, and was succeeded in the control by Mr. Alexander Skinner. The village was attempted to have their farms cancelled on this occasion, but were unsuccessful. In the recent Settlement all the former villages have taken up their own engagements.

In 1851 the Government, N. W. P., issued a notification No. 4158 of 28th November (see Punjab Revenue Circular No. 8 of 11th February 1852), directing that in all villages in which no owners had been recorded at Settlement (technically called *khana khali* villages) an investigation should be made, and where no very clear title was shown by other parties, the farmer with whom the settlement had been made should be declared owner and recorded as such, other claimants being referred to the civil courts. An investigation was accordingly made, and the Skinner family declared owners of all the villages held in farm by them which fell under the above description. Some few of the villages sued for proprietary rights, but failed on the ground of long adverse possession on the part of the Skinners. There is not the least doubt whatever that in almost all these villages the original proprietors were then residing and cultivating their ancestral fields; and it is almost certain that the villages were not wholly abandoned when they first came into Colonel Skinner's hands. The owners no doubt returned gradually, as they did in all the small villages of the tract, and very probably some of them were induced so to return by Colonel Skinner; and it is certain that he spent much money upon the villages, and greatly improved their condition. During the recent settlement the old owners who still reside in the villages sued for rights of occupancy and without any excep-

tion obtained them on the ground that they had been dispossessed of their proprietary rights, and had cultivated continuously since dispossession.

208 The city of Panipat, considered as a landed estate, is divided into four *tarafs* or separate estates held by the Rajputs, the Ansaris, the Makhdumzadas, and the Afghans. These families are of sufficient importance to demand a brief notice of each. The Panipat Ansaris, or helpers of the prophet, are descended from Khwaja Abdullah Pir of Herat, one of whose descendants, called Khwaja Malk Ali, was summoned from Herat by Sultan Ghias-ud-din Balban on account of his repute for learning, and settled at Panipat. They intermarry only with Ansaris, Pirzadas, and the Saiyids of Bareilly and Sunpat. Many celebrated men have sprung from this family. Among the most celebrated are—

Chapter III. F.

Landing Families and Chaudhries.

Panipat families.

(1). Khwaja Abdur Rizaq, Bakhshi in Alamgir's reign.

(2). Khwaja Muayin-ud-daula Dilrofil Khan, and his brother Zakaria Khan, sons of (1) and respectively Viceroy of Kabul and Governor of Lahore at the time of Nadir Shah's invasion.

(3). Latifullah Khan Sadik Shams-ud-daula Tabawur Jang, also son of (1), tutor to Azim Shah, warder of the Fort at Delhi during Nadir Shah's invasion, and Wazir to Bahadur Shah, Farrukhsir, and Muhammad Shah.

(4). Shahrullah Sher Afgan Khan Izzat-ud-daula, also son of (1), *sabadar* of Tatta.

(5). Muhammad Ali Khan, grandson of (3), and author of the *Tarikh-i-Muzaffari* and the *Bahrulmawwaj*.

(6). Abdul Mulk, a celebrated saint described in the *Am Akbari*.

The Makhdumzadas or Muhajarin Arabs are descendants of Abdur Rahman of Ghazran, who came to India with Mahmud of Ghazni, settled at Panipat, and had a descendant, Shakh Jahal-ud-din Kahi-i-kulia Makhdam, from whom the family is sprung. His shrine has a *nim* tree, the leaves of which are a sovereign remedy against *thute*; and no *thut* ever attacks a Makhdumzada. They intermarry with Ansaris and Makhdumzadas only. From this family are sprung—

(1). Nawab Mukarrab Khan, Governor of Gujrat in Jahangir's time.

(2). Shakh Haan, grand-father, and Shakh Bina, father of (1), very celebrated surgeons.

The Afghans, or Sherwani Pathans, descended from Malik Sherwan Khan, who is said to have come to India with Mahmud Ghaznavi. They marry only Pathans.

The Tanwar Rajput family said to be descended from Raja Anand Pal of Delhi. The hereditary *chandhri*-ship of *jaryana* Panipat belongs to this family.

Chapter III, P.

Leading Families and Chaudhries.

Chaudhries.

209. The two hereditary *chaudhries* of *parganas* Karnal and Panipat, are Abdul Karim, Chaudha of Jaudla, and Kiasat Ali, Tunwar of Panipat, both Rajputs. There was a Jat *chaudhri* of Hala for the small group of villages belonging to Jindli, but the office dated only from recent times. Both these *chaudhries* have been made *zaildars* of their respective *zails*. Under the Emperors, the Jaudla *chaudhri* always enjoyed a considerable assignment of *revenue*, as shown by grants now in the possession of the family. Till the transfer of the Karnal *pargana* to the Mamluks, he used to receive an allowance of 7 per cent. on the *revenue* of the *pargana* as *bandar*. In 1820 this was commuted for an annual payment of Rs. 300 which the Mamluk assignees continued to pay till 1859, when they objected to continuing the allowance on the ground that a Regular Settlement had been made. The objection was accepted, and the payment ceased. The chief Chaudhan Rajput family of Rambha enjoyed a small *revenue* grant under the Emperors. One member of the family is now *zaildar* of the Rambha circle.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

SECTION A.—AGRICULTURE AND ARBORICULTURE.

210. Table No. XIV gives general figures for cultivation and irrigation, and for Government waste land; while the rainfall is shown in Tables Nos. III, IIIA, and IIIB. Table No. XVII shows statistics of Government estates. Table No. XX gives the areas under the principal staples. Statistics of live-stock will be found in Table No. XXII. Further statistics are given under their various headings.

Chapter IV, A.

Agriculture and Arboriculture.

General statistics of agriculture.

211. The total annual fall of rain and the manner in which it is distributed throughout the year are shown in Tables Nos. III, IIIA, and IIIB. The agricultural or *fasi* year begins, according to the almanac, at the middle of Chait, but in practice the agricultural year begins with the day after *Dasraha*, or the 11th of the second half of Jath, on which date agricultural partnerships are formed for the ensuing year. The year is divided into three equal seasons, the hot season or *haru*, including Phagan, Chait, Baisakh, and Jath; the rains or *chamam* including Sarg, Sawan, Bhadon, and Asoj; and the cold season, *siso* or *jado*, including Kartik, Mangsir, Poh, and Magh. The two harvests are known as *sawan* for the autumn or *harif* crops, and *arhi*, for the spring or *rabi* crops. Work begins with the first rains or, where irrigation is available, even before that. Maize and cotton are sown, and a little early *jowar* sown and irrigated for the bullocks. As soon as rain falls, the land is ploughed up for the autumn crops. When they are once sown, they do not require very much attention, as most of them are not irrigated at all. But the cultivator is hard at work, ploughing his land for the more valuable spring crops; and it is the amount of labour thus expended on the ground that chiefly decides their out-turn. When it is too wet to plough, there are the banks and ditches to be looked too, came to be tied up, and plenty of odd jobs to occupy the time. With the cessation of the rains comes the busiest season of the year. The land has to be finally dressed and sown with the spring crops, and the autumn

The seasons. Agricultural calendar.

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cultured industries.

crops have to be harvested. During the cold weather the irrigation and weeding of the spring crops absorb most of the available labour; but if good Christmas rains (*masawat*) set the ballucks free from the wall, land will then be ploughed for sugarcane, tobacco, and even for the autumn staples. Irrigation is continued almost up to the spring harvest, which generally comes with a rush, all the crops ripening almost at once; and labour at this season often fetches extraordinary prices. When the spring crops are fairly garnered, little can be done beyond finishing up the tobacco, watering the cane, sowing early maize and *jowar* for the cattle, and getting in the maize and cotton; and even this can only be done where irrigation is available. Consequently this is a season of comparative leisure; and the people occupy themselves, the stars permitting, in marrying themselves and their neighbours.

The weather.

212. The east or cold damp wind (*parwa*) is the abomination of the cultivator. It breeds, especially when the weather is cloudy and the ground wet, all sorts of pests and diseases, animal and vegetable; and the only point in its favour is that it does not dry the land and shrivel up the plants, as the fierce west wind will do, and that it is often the precursor of rain. It is especially obnoxious when the pollen is ripe and the grains forming, or about *Asoj* and *Phagun*. The west or hot dry wind (*parhwa*) on the other hand, if it is not too strong, is hardly ever unwelcome so long as there is plenty of rain; for it does no harm beyond drying things up. It is especially desirable when the plants are young, as it forces them on; and again when the grain is forming; and again when the crops are ripe; but if too strong or too hot, it is called *shala*, and blows of the pollen, shrivels up the grain, and blows down the plants: while in autumn it dries up the moisture upon which the spring sowings depend. After the spring crops the fiery hot wind cannot be too fierce or too continuous, as it dries the grain and makes winnowing easy; and, best of all, it presages a good rainy season. Rain can hardly be too plentiful, in the autumn at any rate, till the pollen forms. While that is ripening, rain washes it off and does much harm; and again when the grain is ripening rain rots it and diminishes the yield. But the injury is reduced to a minimum if a good west wind is blowing. And rain, after the crops are out, is especially injurious, as the produce rots on the ground; and even if the grain is saved at the expense of the straw, the cattle suffer from want of fodder. The ideal season is one in which rain falls early, so as to allow the autumn crops to be sown over a large area; and falls in sufficient quantity at the end of the rains, so as to leave the ground moist for the spring sowings.

Wood time and har-
vest.

213. The approximate sowing and harvest times are given on the opposite page. These are the ordinary times. In an exceptional season the sowing may be further delayed a fortnight or even more, but to the injury of the produce:—

STATION.	Sept. 1892.		November.	
	From	To	From	To
Union	1st June	16th July.	14th Oct.	11th Nov.
Maido	17th "	18 "	14th Sept.	15th October.
Choum rice	18th "	19 "	24th Sept.	25th "
Bufo	19th "	1st "	24th Sept.	25th "
Lower	1st July.	21st August.	20th Oct.	20th Nov.
Grain	1st Sept.	10th Oct.	1st April.	15th April.
Wheat	20th Sept.	1st Nov.	10th "	20th "
Barley or mixture of wheat, grain, and barley	1st Oct.	1st Dec.	1st April.	15th April.

For the *Kharif* crops rain is most needed in June and the first week of July, and it cannot be too plentiful. They are also greatly dependent upon the rains in the end of July and first half of August. If it is either too plentiful or too scanty, it injures the crops. Too much rain at the end of September also hurts the crops, as it washes off the pollen from the flowers. For the *rabi* crops rain is most needed in Bhanden (15th August to 15th September) and first half of Amv (rest of September), when it can hardly be too plentiful: good rain in December and January is also most beneficial. Rain after the first week of March is injurious. In both crops rain at harvest time does infinite damage, as the grain when cut lies in the fields for weeks, and both it and the straw are liable to damage from wet.

214. The main kinds of soil have been described in part. 4. The yield of "Maada" in the Khediv is always poor; and if there is much rain, the soil becomes so soft that the crops fall down. At the same time it is cool, and retains its moisture for a long time; and when the covering of mud is thin and supplies better soil, which is only very occasionally the case, very good crops are produced.

Dakar is terribly stiff and hard to work, and will yield nothing without water. But when there is plenty of that, the better sort of *dakar* gives splendid rice and gram crops, one after the other, in the same year. The *kular dakar* commonly found in the Nardak is a very treacherous soil. It yields only coarse rice. In a really good season; the out-turn is heavy, but without floods or heavy rains early in the season the land cannot be sown at all, and the crops are often ruined by too much rain in September.

114. Table No. XIV gives details of irrigation. Further information will be found at pages 177 to 200 of Major Wood's *Panama Report*, compiled in 1878. At that time 20 per cent

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Means of irrigation

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Wells.

of the cultivation was returned as irrigated from canals, 19 per cent. from wells, 1 per cent. was flooded, and the remaining 60 per cent. was wholly dependent upon rain.

214. The following figures show the number of wells then reported as existing in the district, with certain statistics regarding them:—

Number of wells.	Depth of water in feet.		Cost in Rupees.		Belonged to whom in 1901-2.		Cost of floor.	Area irrigated per well in acres.	
	From	To	Masonry.	Wells not masonry.	Number of wells.	Cost in Rs.		Spring.	Balance.
1,210	...	30	100	5	2	100	...	...	...
3,783	30	40	256	10	2	125	55	6	6
125	30	40	500	...	2	200	22	5	5
1,461	40	50	...	...	4	400	30	7	8
992	50	...	...	...	1	...	25	7	3
	Above	...	800 to 1,200	...	4	504	10	6	2

The irrigation is usually by Persian wheel in the Khadir and in the Fowadh tract to the north of the Ghaggar; and elsewhere by rope and bucket.

Masonry wells in
Judri and Kalihal.

215. The following table shows by assessment circles the statistics relating to masonry wells compiled at the recent settlement of Judri and Kalihal:—

Taluk.	Assessment Circle.	Number of wells.	Average depth to water in feet.	Average cost of constructing a well.	Average area irrigated per well. ¹
Judri	Khadir	238	16	200	8
	Bangar	889	25	450	12
	Kadirah	224	45	650	5
	Total	1,351	...	...	...
Kalihal	Fowadh	512	13	200	8
	North Fowadh	238	13	225	11
	North Kalihal	458	24	200	5
	Andarwa	344	34	300	19
	Bangar, Fowadh	204	60	450	11
	Bangar Kalihal	101	60	400	7
	Kadirah	83	70	450	5
	Total	1,910	...	...	...

(1) See also page 221.

The figures for Karnul are exclusive of wells in eight estates of the southern Chuchra Circle transferred from Pipli. In the case of the Indri pargana and of the Behawa Circles in Kailhal the average area irrigated per wheel or bucket has been shown in the last column. There are a good many wells in Indri with more than one bucket or Persian wheel. The average area irrigated in Indri is the average of 3 years *rabt* 1824 to *charif* 1826, for the two Behawa Circles of Pipli of the three years *charif* 1823 to *rabt* 1826, and for the circles included in the old Kailhal *taluk* of the four years, *charif* 1823 to *rabt* 1827. The cost of well-sinking in the Kailhal Marikah and Bangar has perhaps been under-estimated in the table. Irrigation in these two circles is confined to the northern villages bordering on the Barwari valley.

216. The method of well-sinking and the religious ceremonies which accompany it are described in paras. 404—407 of Mr. Ibbsen's Settlement Report.

217. In the Khadir unbricked wells are made by digging out the sand and lining the lower part, which is of greater diameter than the upper, with a covering (*ghat*) of woven withies of *ghos* or *simbhalu* or *tunt*. They are made in a few days, and at a cost of Rs. 5 to 10, spent in buying the lining, and feeding the friends who come to help in the digging after water is reached, which must be hurried on. They fall in during the next rainy season. There were 130 *tachels* or unbricked wells in the Indri Khadir at Settlement.

218. The driving gear in a Persian wheel will cost some Rs. 15, and last 6 or 8 years. The banthara wheel and subsidiary cost about Rs. 10 more, and only last about a year. The *mat* or rope holder, on which the earthen pots (*tinde*), which raise the water, are fastened, is made at home, always of *doh*, which resists the action of water better than any other tree. The whole gear is said to include 200 separate pieces of wood, which enjoy some 70 or 80 separate names among them.

The leather bucket (*chavut*) in a *charas* well consists of a buffalo hide bag swung from an iron ring and handle (*mandal*). It is drawn up by a strong rope (*das* made of six fibres, and passing over a small strong wheel (*ghos* or *chul*) fixed over the well. The oxen who draw it run down an inclined plane (*ganu*) dug out by the side of the well, the driver sitting on the rope to bring the struts more horizontal, and return by a less steep incline parallel to it. When the bucket reaches the top, the man who stands at the mouth of the well seizes the rope and pulls the bucket on to a temporary platform (*pankar*) on which he stands. He then bids the driver unloose the rope. This releases the bag, which collapses, and the water shoots into the cistern (*porcha*). The empty bucket is then hung into the well, the rope being held under the foot to prevent it falling too quickly. When the oxen reach the top, the rope is fastened

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Miscellaneous wells in Indri and Kailhal.

Well-sinking.

Unbricked wells.

Well gear.

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Agriculture.

Well-gear.

on again, and the operation recommences. The directions to the driver, intermixed with prayers for protection, are delivered in a song, the cadences of which the bullocks soon learn to recognise, and stop, turn, and start of their own accord at the proper moment. The work at the well mouth is very dangerous, as any mistake will precipitate the man into the well. The bucket costs Rs. 6 to 8 and lasts a year; the iron ring and wheel Rs. 3 each. The *lari* is made at home. The bucket will lift 320 to 480 pounds of water each time, and there is no waste. The *shara* well is worked at a much greater cost of labour, but it is a much more efficient means of irrigation than the Persian wheel. For irrigating with the bucket five men are needed; two men to catch the bucket (*hairia* or *barsa* only from *barsa* bucket) working half a day each, as the labour is very heavy; two drivers *shambli* or *dhila* from *dhila* the peg, which fastens the *lari* to the yoke; and one *pondara* to look after the channels and let the water *sucre* into the irrigation beds. There should also be four yoke of oxen, two working at once, one coming up while the other goes down the incline, and changing at noon. The well is worked from dawn till sunset, with 3 hours rest in the hot weather. Four yoke of oxen will water 3 to 4 acres in five days according to the depth of the well; two yoke will water $2\frac{1}{2}$ to 3 acres in the same time.

The labour at the Persian wheel is much easier, as expressed by the saying "*Harat ek ank se chalta*," "one eye is enough for a *harat*," for the driver (*gaderia*) who sits on the beam to which the yoke is tied may be blind, and the *pondara* only needs one eye. But of course a man for grass is needed. It is better to have four yoke of oxen to change every 3 hours, as the rotary motion soon tires the bullocks, but there are very generally only two. A Persian wheel will water 3 acres of land in five days, and a good deal less if the soil is very sandy.

Wells are seldom the property of a single person. The *sharara* irrigate in turn for a day or half a day each, according to a *roti* (*harat*, *barsa*) fixed by lot.

Aki Irrigation.

219. Irrigation from tanks, classed in *crop returns* as *abi*, is practised to a small extent, especially in the Nardak. The method is the same as is followed in canal irrigation by lift.

Watering from tanks is mainly used as an auxiliary to irrigation from wells situated in the homestead lands. A *rao* is both to put up his well-gear in the hot weather, and, if the rains are good, the maize will ripen without artificial irrigation, and one watering from the tank will be sufficient to mature the cotton. The *toris*, which is sown in October, and ripens in January, is often tank-watered, and in a bad year the *harat* will be sown with wheat gets a preliminary watering from the tank. In the Nardak, where this form of irrigation

is most common, there are some large depressions which are filled with water in the rains, round the borders of which rice crops are sown, and watered, if necessary, by lift.

A curious kind of *abi* irrigation is practised on the Ghagar and its tributaries, whose channels are far below the surface of the surrounding country. Wells, sometimes lined with masonry and sometimes *kachhu*, are dug near the river bank, and carried down to a lower level than its bed. In the case of masonry wells, the face of the cylinder is exposed on the river side, and low down in it an arch or *gharaha* is built. A channel from the river leads water into the well through this arch, and in the cold weather a small head is sometimes thrown across the bed of the stream to hold up the water. Each well is usually worked by the rope and bucket. This *abi* irrigation was formerly of more importance than it is now. It is at best precarious, and has become more difficult as the channel of the Ghagar has become deeper.

230. The water passes from the canal by a head (*sookhand*) into the main distributaries (*rajbaha*). From them it is distributed by small channels (*shand*, *thal*) to the fields. Each main channel supplies many villages; and each village has its turn of so many days. Irrigation from the canal is practised in two ways. If the water is delivered above the level of the fields, the irrigation is called *tar*, or flow; if below them, *dal* or lift. In flow irrigation all that is needed is to cut a hole (*naka*) in the channel and let the water run to the field. The area that can be irrigated in this manner in five days is only limited by the supply of water; one good opening will water 30 to 50 acres. Irrigation by lift is practised thus. The water is brought up by a low-level channel, which is met by a high-level channel into which the water has to be lifted. The end of the lower channel is enlarged and a small pool (*chahli*) dug out; on either side of this standing places (*puta*) are dug in the banks. The end of the higher channel is also enlarged into a basin (*pyaini*) which is cushioned with grass to prevent the fall in water from upsetting. Two men called *dalia* then stand, one in each *puta*, and swing between them the *dal* or scoop. This is in the shape of a small canoe, and is made of thin planks of *dhak* wood sewn together with leather, coated with mud, and lasts a year. It is swung by four strings, two at each end on either side of the point. The *dalias* take a string in each hand and swing the scoop, dip it into the water, swing it out full of water up and over the *pyaini*, and tip the water out by tightening the upper strings. The operation is performed with wonderful skill; but the labour is very severe, and a man can only work for an hour continuously at it, and cannot work two days running. The outside height of the *puta* or bank over which the water is to be lifted is 4½ feet; if the total lift is greater two lifts are used, one above the

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ances.
Oxen.

other. It takes four *dahs* and one *panjira* to work a *dal*, and they will water 3 to 5 acres in five days, according to the height of the lift.

221. Table No. XXII shows the number of cattle, carts, and ploughs in each *tahsil* of the district as returned in 1888-90. The number of ploughs in *Kaichal* is probably under the truth, for about 12,500 were counted at the recent Settlement.

Agricultural work is entirely done by oxen. Male buffaloes are occasionally yoked in carts, but very rarely indeed in any thing else. In the light soil of the *Khadir* with water near the surface, small cattle costing Rs. 20 to 25 each will do all that is needed. But for the stiffer soil of the *Bangar* plough cattle now cost Rs. 35 to Rs. 40 each; while oxen that can do a full day's work on the deep wells of the *Nardak* cannot be got under Rs. 50 or Rs. 60 each. An ox begins work when rising 4, and works for 10 years. For a bucket well, eight oxen is the full complement; for a Persian wheel, four. A plough is now always reckoned at two bullocks. It used to be reckoned at four; the change is due to the greater sub-division of land owing to increased population, as many of the agricultural accounts are kept by ploughs.

Fodder.

222. Fodder in general is called *nira*. The fodder of the autumn crops consists of the stalks of the great millets and of *tulsi*, which are carefully stacked on and in a stack called *chhor*; of rice straw which is merely piled up in a heap (*kasira*); and of the *bhus*, or broken straw left after thrashing of the pulses. The spring crops give *bhus* only, also called *turi* if of wheat or barley. *Bhus* is stored in a *kup* made of a wrap of straw (*banda*) wound spirally round and round upon a foundation of cotton stems so as to form a high circular receptacle in which the *bhus* is packed and preserved and thimbed when full. A long low stack fenced in by cotton stems alone is called a *chhan* or *chawari*. Near the city the people store their *bhus* in mud receptacles (*khutis*) and plaster it all round the top. The *bhus* is taken out from a hole at the bottom as wanted. Stems of millet and maize are chopped up into small pieces (*sani* or *kuti*) before being given to the cattle. An ox during ordinary work will eat 20 *sars* of grain and a *sar* of grain daily; if working at the sugar-mill or well bucket, nearly twice that. The cost of stall feeding may be taken at about 2 *annas* a day. Of course the fodder varies according to the season. The mass of it consists of grain and straw of cereals; a little pulse straw is always added; and green food when obtainable. In the cold weather *makh* and rape and carrots, and at all times the weedings, are given to the cattle. Besides this some cotton seed or oil-cake, or either *gusni*, *sark*, or gram is daily given. The best fodder of all is the straw of the small pulses, and is called *niran*; after that that of wheat and barley, called *turi*; after that the *four* stems or

Chari. *Bayra* stems are seldom given alone. They are chopped up and mixed with one-third of young fodder, or tuling (tūl), with some jolanka (*khāt*) or pea-meal of grain. In summer the cattle will eat almost anything. The stored *pisipoti* are stripped and even the thorny *hina* is cut up and given to the starving beasts. When sugar-cane is grown it is cut green to keep the bullocks alive.

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Fodder.

223. The dung heap (*hauri*) is started when the rains are over. A great hole is dug in the ground, and straw, cattle-holding, sweepings of houses, and cuttings of weeds, and all sorts of refuse, are thrown into it. During the rains the cow-dung is too wet to be carted up into fuel cakes, and is all thrown on to the heap. The rain is allowed to fall freely upon it, and it is periodically turned over and worked up by the sweepers. As soon as the rains are over, it is fit for use. It is taken to the field in carts, sprinkled by the sweepers, and ploughed in. Manure proper (*thar* or *khāt harra*) is not very often used as a top-dressing. But the market gardeners largely use the alkaline effluence (*rehā*) found about the village homesteads as a top-dressing for young wheat. The similarity of the name has led to statement that the injurious saline effluence or *rehā* which covers so much of the country is used for manure. This is not the case in Karnal. *Rehā* consists chiefly of sulphates, and is injurious; salts of nitrates, which, of course, are the best of manures. Weeds, grass, and plant stems, and roots which cannot be used as fodder, are generally burnt on the fields and the ashes ploughed in. The great object of the cultivator is to get enough manure for his sugar-cane. After that, what is over is divided between fine rice, cotton, maize, and the best wheat land; but these crops, excepting rice, are often sown after sugar-cane, when no fresh manure is given. In the Nārān manure is little used, as the people say truly that in the rich irrigated soil with a scanty rain-fall it only burns up the plants.

Manure.

The above refers especially to the part of the district settled by Mr. Robertson. In the irrigated parts of Indri and Kuthal, except in the canal irrigated villages in the south of latter *taluk*, the people make the best use of the manure at their disposal. Mr. Douie writes in the Indri Assessment Report:—

"The fuel and manure is stored close to the homestead, and the cold-weather visitor, who sees the lanes round and leading into the villages lined with heaps of cow-dung and decaying straw, is apt to carry away an exaggerated impression of the unhealthily condition under which the people live, forgetting that all this manure in the Kuthal and Indri villages is carefully removed, and spread over the fields before the rains."

224. The sugar press or *lutha* consists of a stump of a fair tree hollowed out and bound with rope, and firmly fixed

The sugar press

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The sugar press.

in the ground. The hollow is lined with pieces of hard wood (*coru*) which are renewed when worn out, and are so shaped as to form a large upper cavity for the reception of the pieces of cane, and below that a small socket in which the ball of the crusher works. The crusher (*tili*) is a long beam of *likar* with a knot at the lower end which works in this socket; and above that a conical shaped enlargement (*phuran*) which crushes the cane against the sides of the *katha* as it moves round in the cavity. The beam to which the axes are fastened (*pat*) has a curved bearing (*guti*) at one end which travels round a groove outside and at the bottom of the *katha*: it is heavily weighted at the other end. To it is fastened a connecting rod (*wanak*, *thunba*) which projects upwards and is tied at the top to a flat piece of wood (*makri*) with a socket in its highest end. Into this socket the top of the crusher fits. As the cane is crushed the juice runs down past the ball and socket joint and passes out by a small hole at the bottom of the press. The oil press has the same name and is identical in construction with the sugar press. The native *katha* is now being superseded by the Behra sugar mill with iron rollers.

The plough and
minor agricultural
implements.

225. A description of the plough used in Karnal and of the minor agricultural implements is given in paras. 413 and 414 of Mr. Ibbotson's Settlement Report.

Agricultural opera-
tions.

226. A full account of agricultural operations from the ploughing of the land to the measuring out of the grain will be found in paras. 424—436 of Mr. Ibbotson's Settlement Report.

Irrigating expedi-
ency of wells and
average area worked
by ploughs in differ-
ent parts of sub-
divisions of Panyas
Karnal.

227. Writing in his Settlement Report of Panyas and Panyas Karnal Mr. Ibbotson remarked:—

"In the canal tract five ploughs with ten good bullocks and 20 men will cultivate 60 acres of land, which will be distributed somewhat as follows: Cane 5 or 6 acres; cotton 5; rice and *jowar*, 20 between them, the low swampy land bearing rice; wheat 20. The small pulses will be sown among the *jowar*; while gram or mixed grains will follow the rice, and *methi* will be sown among the cotton in the same year. On the canal a plough will cultivate a much larger area than in the Khadir, because the oxen are not wanted for irrigation; but the number of men must correspond with the area, and not with the number of ploughs.

"In the Khadir a Persian wheel will have 10 to 16 acres attached to it and can irrigate about 12 acres in a bad year. In good seasons the area watered is far less. There will be two ploughs on it, with 4 oxen, and 4 or 5 men where the women work, and 6 or 7 where they do not; and these same ploughs will perhaps cultivate some 4 acres of unirrigated land in addition. On dry land wheels the 60 acres of land will be distributed somewhat as follows:—Cotton, 8 acres; sugar-cane, 6; maize, 6; *jowar*, 20; *geara*, 4; *methi*, 4; wheat 20; gram, 4. *Methi* will be sown among the cotton, and the *maize* will be

followed by barley or wheat in the same year. Among bad cultivators the acre per plough will be greater; but it will probably include a good deal of unirrigated land, and the total yield per plough will be smaller.

In the Nardak, where the Rajput runs his plough over the ground, sows the seed, and trusts to God for the produce, the area which can be cultivated by a plough is capable of extraordinary extension in a favourable season. Five ploughs with their 10 oxen and 12 men (for horse reeding is not practised, and few men are required) will cultivate some 100 acres, almost all unirrigated, as follows:—Coarse rice, 30 acres; *jowar*, 25; cotton, 3; musam, 7; maida, 3; grain and barley, 10; gram, 20; and a little rape. But if the early rains are heavy, coarse rice will be sown in every available acre of land fit for it, up to 30 to 70 acres; for the preparation of the ground involves little labour, and the seed time has wide limits. And a great part of that will be followed by gram in the spring. So, again, if the late rains are heavy and last long, the Rajput goes out rejoicing and ploughs the whole country up for gram. On the other hand, if the rain fail, hardly a sod will be turned or a seed sown in the high Nardak.

228. The statistics relating to ploughs in *parjuna* Indri collected at the recent Settlement indicated a deficiency of agricultural stock, specially in the two upland circles. The number of cultivated acres per plough in the Khudir was 11, in the Bangar 17, and in the Nardak 23. It must be remembered that the enumeration was carried out after the drought of 1893-84, during which 3,782 bullocks died, which is equivalent to a loss of 1,891 ploughs. As the total number of ploughs by the Settlement returns was 9,423, it may be said that the drought cost the *parjuna* at least one-sixth of its plough-cattle. Valuing the Khudir bullocks at Rs. 20, and the Bangar and Nardak oxen at Rs. 45 each, we may estimate the loss at about Rs. 1,25,000. Another reason why the acreage per plough appears large, is that the amount of land which bears two crops yearly is very small. Moreover, the unirrigated cultivation in the Nardak, and in some parts of the Bangar, is of the roughest description, and in the Nardak, the rice lands, which constitute one-third of the total cultivated area, are, as a rule, not ploughed at all, but merely trodden out by cattle. The cultivated area in that circle, as recorded in our returns, is also much above the average area put under crop. The Settlement figures for Kaithal give one yoke of oxen to 11 acres of cultivation in the Powadh, 15 in the Andarwar, 16½ in the Pohnwa and 18 in the Kaithal Nadi, 19 in the Nardak and Pohnwa Bangar, and 22 in the Kaithal Bangar. Though there are fewer ploughs in proportion to cultivation in the Kaithal Bangar than in the Nardak, the tillage is much better in the former. The Rajput scamps his field work partly because he is not by nature very industrious, but largely because he has so much work to do which should properly fall to the lot of his women folk.

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Irrigating capacity of wells and average area worked by ploughs in different parts of tahsil Poonah and *parjuna* Karnal.

Area worked by ploughs in different parts of tahsil Kaithal and *parjuna* Indri.

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Arboriculture.

Irrigating capacity of wells in
Kathi Kalihal and
Bangar Indri.

220. The real irrigating capacity of wells in Indri Circle may be judged from the following table:—

Circle.	No. of wells.	No. of well wheels or buckets.	AREA IRRIGATED PER WHEEL OR BUCKET.								
			Area entered in Settlement Record.		Kharif 1883.			Kharif 1884.			
			Rabi 1883.	Kharif 1883.	Total.	Rabi 1884.	Kharif 1884.	Total.			
Khadir ..	938	1,110	64	7	3	12	6	4	10	2	1
Bangar ..	580	700	17	10	7	15	11	7	12	7	0
Nardak ..	250	241	14	6	2	10	4	...	9	4	4

The figures entered in the Settlement record represent the whole area commanded by the wells and watered from them from time to time.

In the first three harvests the wells were strained to the utmost, and in the fourth and fifth, owing to abnormal rainfall, there was very little irrigation. The average for the three years is, in the Khadir 9 acres per well wheel, in the Bangar 12 acres, and in the Nardak 8 acres. There is usually very little irrigation in the Nardak in the Autumn harvest.

In Kathi wells are little worked except in the Pownah, Andarwar, Nalli, and Bangar Pohna Circles. The average area irrigated in a series of years is shown below:—

Circle.	No. of wells.	AREA IRRIGATED PER WELL.					Average.
		Area entered in Settlement Record.	Kharif-Rabi 1883-84.	Kharif-Rabi 1884-85.	Kharif-Rabi 1885-86.	Kharif-Rabi 1886-87.	
Pownah	812	11	11	8	84	94	0
Andarwar	244	10	13	7	9	11	10
Nalli Kathal	470	13	11	2	3	4	4
Nalli Pohna	233	0	10	4	44	...	54
Bangar Pohna	203	04	10	7	8	...	54

The comparatively small area attached to each well in the Powadh is due in part to the character of the water bearing stratum, and in part to the small size of the bullocks employed. There is little Kharif irrigation in ordinary years, except in the Powadh, where maize, cane, and cotton are largely grown. The Nali wells may be looked on in the light of an insurance against drought and failure of floods. In a famine year a well in the Nali can cover as large an area as a Powadh well. The zamindars of the Andarwar and Pohwa Bangar keep powerful oxen, but the great depth of the water level in the latter circle reduces the irrigating capacity of the wells.

230. On this subject Mr. Ibbotson writes:—

"It is impossible to estimate the cost of cultivating any particular staple by itself; or at least, the estimate, when made, is meaningless. Take tobacco, for instance. The necessary labour of both man and oxen would, at market rates, amount to a good deal more than the crop is worth. But the man and oxen are both there; and their labour is for the most part given at a time when it could not be used profitably in any other way, the tobacco season being the slack time of the year. The only estimate that is worth making is that of the whole cost of cultivating the land under one plough. Taking two oxen costing Rs. 25 each, outing one man a day, and working 10 years; three men with their families at Rs. 3 a month each. (I take three men to include the labour of the village mendic) half the interest on Rs. 250, the cost of a well; and allowing for wear and tear of implements, we have for yearly expenses—

	Ru.
Keep of bullocks	45
Deterioration	7
Keep of cultivators	108
Interest on cost of well at 20 per cent.	20
Wear and tear of gear	5
	<hr/> 185

or Rs. 185 for, say, 10 acres, or Rs. 18-5 per acre. But the actual expenses will be less; the cattle will be home-bred; the fodder, food and clothes will be home produce; and much of the cost of the well will have been extra labour not paid for, and which bears no interest.

"In the canal tract there will be four men in place of three, and instead of interest on the cost of a well, there will be about Rs. 2 an acre all round for canal water rates. This will bring the cost of cultivating 12 acres to Rs. 225, or Rs. 18-12 an acre; practically the same as in the Khadir. But such estimates are, I believe, very unprofitable, and give us little information about the real cost of production as it comes out of the cultivator's pocket. There are some further remarks on the subject at section 112 of my printed Assessment Report on Sahil Paripat."

231. Table No. XX shows the areas under the principal agricultural staples for the years 1873-74 to 1888-89. The figures for the earlier years are quite untrustworthy, but they are

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Irrigating capacity of wells is taken Karnal andpargana Indri.

Cost of Cultivation

Proportion of crops grown in each tract, and proportion irrigated

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Proportion of crops
grown in each har-
vest, and proportion
irrigated.

Cultivation of
principal crops.

retained as the Gazetteers of other districts give statistics from 1873-74 to 1881-82. Reliance can be placed on the figures for the past three years, and these have been analyzed by *tabule*. Taking one year with another there is a slight preponderance of *Rabi* crops in the district as a whole. The irrigated area fluctuates widely with the character of the season. In Punjab about one-third of the crops are watered on the average, in Karnal probably not above one-eighth, while in Kaithal the proportion is at present far less.

232. The table given below shows various particulars concerning the cultivation of each of the chief staples. The figures refer to crops properly cultivated; but of course there is always a good deal of land in which the cultivation falls far short of the standard. Most labour is naturally bestowed on the irrigated and manured land, the other getting the leavings of the cultivator's time. The cultivation of vegetables, drugs, spices, pepper, and the like is confined to the market gardens round the town, and to a corner of a field here and there which satisfies the private needs of the villagers. The cultivation of opium has been forbidden in the Delhi territory since 1825; and the prohibition was extended without much consideration to the Indri *pargana* and Kaithal *tahsil*, when they were added to Karnal on the abolition of the Thanesar district, with the result of seriously crippling the resources of some estates in the north of Indri, which depended largely on the poppy. The existing arrangements have become more anomalous since the greater part of Pehawa was transferred to Karnal, for the growing of opium is now allowed in one corner of the Kaithal *tahsil*, while it is forbidden in the rest of the district. A proposal to allow the cultivation of *mu* in Indri has for the present been negatived.

Crop name.	English name or description.	Botanical names, with references.	No. of single-leafed plants per acre.	% of water left after harvest.	No. of single-leafed plants per acre.	% of water left after harvest.
Op.	Opium	<i>Papaver officinarum</i> A. C. 43; G. 461; D. P. 10502.	11 to 15 or more	900	1 to 2	—
Ind.	Indri	<i>Convolvulus bartramia</i> (A. C. 72; G. 571; D. P. 1181).	2	100	1 to 1	1
Mu.	Mu	<i>Thespesia</i> (A. C. 11; G. 2; D. 102; G. P. 1005).	1 to 2	100	1 to 2	1
Shw. (G.)	Shw. (G.)	<i>Opium. extra.</i> (A. C. 81; G. 21; D. P. 1052).	2	7	1	1
Shw. (G.) or mu.	Shw. (G.) or mu.	<i>Opium. glutinosa</i> (the green)	1 to 2	—	1	—
Shw. (G.) or mu.	Shw. (G.) or mu.	<i>Opium. glutinosa</i> (A. C. 80; G. 204; D. P. 1050).	2 to 3	—	1 to 2	—
Shw. (G.) or mu.	Shw. (G.) or mu.	<i>Opium. glutinosa</i> (A. C. 81; G. 21; D. P. 1052).	2	—	1	—
Shw. (G.) or mu.	Shw. (G.) or mu.	<i>Opium. glutinosa</i> (A. C. 81; G. 21; D. P. 1052).	2	—	1	—
Shw. (G.) or mu.	Shw. (G.) or mu.	<i>Opium. glutinosa</i> (A. C. 81; G. 21; D. P. 1052).	2	—	1	—

NOTE.—A. C. is Wright's *Agrostographia*; G. is Wright's *Geographical*; D. P. is Wright's *Plantae*.

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principal crops.

Native name.	English name or description.	Botanical names, and references.	No. of plants lost.	No. of plants lost per acre.	No. of plants lost per acre.	No. of plants lost per acre.	No. of plants lost per acre.
2nd	A small palm...	<i>Phoenix acutifolia</i> : A. C. 22; B. 12; H. P. 247.	3	..	..	..	3
2nd	" " "	<i>Phoenix radiata</i> : A. C. 30; B. 74; H. P. 248.	2	..	..	..	2
3rd	" " "	<i>Phoenix sumatrana</i> : A. C. 35; B. 75; H. P. 248.	2	..	..	..	2
4th	A palm	<i>Phoenix</i> <i>sp.</i> : H. P. 248.	2	..	..	..	2
5th	Bamboo	<i>Bambusa</i> <i>sp.</i> : A. C. 34; B. 143; H. P. 1323.	3	..	..	..	3
6th	A tree	<i>Albizia</i> <i>sp.</i> : A. C. 45; B. 22; H. P. 1324.	..	..	..	..	..
7th	" " "	<i>Cratogeomys</i> <i>sp.</i> : A. C. 46; B. 23; H. P. 1325.	1	..	..	..	1
8th	Wheat	<i>Triticum</i> <i>sp.</i> : A. C. 47; B. 24; H. P. 1326.	10 to 15	..	..	..	10 to 15
9th	Barley	<i>Hordeum</i> <i>sp.</i> : A. C. 48; B. 25; H. P. 1327.	2 to 4	..	..	..	2 to 4
10th	Wheat or wheat grass	<i>Poa</i> <i>sp.</i> : A. C. 49; B. 26; H. P. 1328.	3 to 4	..	..	..	3 to 4
11th	Grass	<i>Poa</i> <i>sp.</i> : A. C. 50; B. 27; H. P. 1329.	1	..	..	..	1
12th	Rape	<i>Brassica</i> <i>sp.</i> : A. C. 51; B. 28; H. P. 1330.	2	..	..	..	2
13th	Peanut	<i>Arachis</i> <i>sp.</i> : A. C. 52; B. 29; H. P. 1331.	2	..	..	..	2
14th	Tobacco	<i>Nicotiana</i> <i>sp.</i> : A. C. 53; B. 30; H. P. 1332.	4 to 10	..	..	..	4 to 10
15th	Saffron	<i>Carthamus</i> <i>sp.</i> : A. C. 54; B. 31; H. P. 1333.	..	..	..	..	..

NOTE.—A.C. is Wright's *Agriologia*; B. is *Botanical*; H.P. is *Hortus*.
P.O. is *Plantae*.

233. Many of the evils to which plants are subject are peculiar to particular staples, and are noticed in their places below. But a few are very common. Much information on the subject has been collected by Mr. Baden-Powell.

Pala or frost is very injurious if severe and not accompanied by rain, or if a west wind blows at the time. There is a saying: *gita mih pahata pala; gita kiran ha gula*: "a early rain and frost are the husbandman's loss." It especially attacks cotton, sugarcane, gram, rape, and early wheat while in the ear.

Kag, *bagica*, or smut is produced by east winds with cloudy damp weather. It attacks wheat especially; and also jowar and sometimes barley. But it is, as a rule, sporadic in the two latter.

At or *ala* is a black oily appearance upon the leaves of cotton and sugarcane. But it is also the name of a gregarious caterpillar, which especially attacks cotton, rape, and soams.

Kuni or rust is produced by the same influences which produce smut. It attacks wheat chiefly, and is exceedingly destructive.

Diseases and
evils of plants.

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Arboriculture.Bliss and res-
ources of plants.Insecurity of the
cultivation.

Jackals do most harm to maize, of which they "do not leave even the bones" and to sugarcane. They also eat *methi* and safflower.

Pigs are catholic in their taste; but if they have a preference, it is for rice, *jowar*, maize, and cane.

White ants eat most things, especially gram, cotton, and cane. They cannot move in *dakar* as it is too stiff and moist for them; and plenty of water will keep them away.

Ujala or general withering up from any reason, and *sokha*, or withering up from want of water, are of course evils common to all plants.

234. The two features of the agriculture of the district, which require to be constantly kept in view, if the revenue administration is to be successful, are:—

(a) the wonderful shrinkage of the sowings, and

(b) the extent to which the crops sown fail,

in a bad year. A person unacquainted with the district or with similar tracts in the Dehli Division might be tempted to doubt the accuracy of some of the statements made on this subject, but they are fully borne out by the evidence of careful harvest inspections made during and since the recent settlement of Indri and Kaithal. These features of the cultivation are naturally less marked than elsewhere in the Khadir of the Jamma and in the Punjab *tehsil*, a large part of which is protected by the Western Jamma Canal. The harvests in the Jamma valley succeed best in years of moderate rainfall, and in the autumn the danger is rather from overflowing than from drought. The maize crop suffers severely from floods. The percentages of the areas sown and harvested on the recorded cultivated area in the three assessment circles of *pargana* Indri in 1883-84 and 1884-85 are shown below. The first was a year of extreme drought, in the second the rainfall was extraordinarily heavy:—

Harvests.	Details.	KHADIR.		HARDOE.		NARDAE.		TOTAL PARGANA.	
		1883-84.	1884-85.	1883-84.	1884-85.	1883-84.	1884-85.	1883-84.	1884-85.
Khadir ...	Harvested	36	48	26	51	16	48	28	49
	Failed ...	5	3	15	3	13	12	12	5
	Total sown	41	50	41	54	31	60	40	54
Rahi ...	Harvested	42	61	23	42	11	41	56	54
	Failed ...	20	3	18	1	9	1	17	1
	Total sown	62	64	41	43	20	42	73	55
Both har- vests	Harvested	78	109	49	93	27	89	84	103
	Failed ...	25	3	33	4	22	13	29	6
	Total sown	103	114	82	97	49	102	113	109

In the Bangar, the area sown in 1883-84 was 17 per cent. below the cultivated area, and notwithstanding the large amount of well irrigation, two-fifths of the crops failed. In the Nardak, little more than half the cultivated area was sown, and half of the land sown yielded nothing. (See also para. 238). In 1884-85 the people put every acre they could under tillage. The two great autumn staples of the Nardak are rice and *jowar*. The sowings of the former fluctuate to an extraordinary degree, and the crop is liable to suffer severely, both from drought and overflooding. In the autumn harvest of 1883, above half the small area sown yielded nothing, and in the *harif* of 1884, heavy rains at the close of the season destroyed about one-fifth of this crop in the Nardak.

A similar table, the figures in which speak for themselves, is given for the five assessment circles of the old Kaithal *taluk*. In only one of these, the Powadh, can the crops be considered even tolerably secure:—

Season.	District.	KABOLZ.				BANGAR.				ABULKHWAN.			
		1883-84.	1884-85.	1885-86.	1886-87.	1883-84.	1884-85.	1885-86.	1886-87.	1883-84.	1884-85.	1885-86.	1886-87.
Winter	Crops	13	24	37	37	13	0	32	41	23	45	34	23
	Failed	31	4	8	17	30	1	1	18	23	8	11	12
	Total sown ..	24	20	23	23	23	63	64	59	54	54	47	40
Kharif	Crops	11	37	17	6	4	22	19	4	20	28	23	29
	Failed	13	1	2	3	5	2	11	31	17	1	3	2
	Total sown ..	22	38	19	11	13	24	29	19	37	29	26	29
Wet Harvest ..	Crops	24	62	74	62	24	14	21	23	21	100	98	81
	Failed	22	3	4	20	43	2	9	27	19	4	19	17
	Total sown ..	46	65	78	82	67	16	31	50	40	104	117	98

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Inscurity of the cultivation.

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Arboriculture.Immunity of the
cultivation.

Harvest.	Details.	TOWNSH.				RANG.			
		1883-84.	1884-85.	1885-86.	1886-87.	1883-84.	1884-85.	1885-86.	1886-87.
Kharif	Crops	41	43	49	51	3	25	19	19
	Falled	3	7	3	7	12	8	10	10
	Total sown ..	44	50	52	58	15	33	29	29
Rabi	Crops	48	53	55	59	35	44	51	51
	Falled	17	1	2	16	3	1	15	15
	Total sown ..	65	54	57	75	38	45	66	66
Both Harvests ..	Crops	89	96	104	110	38	69	70	70
	Falled	20	8	5	23	15	9	25	25
	Total sown ..	109	104	109	133	53	78	95	95

In the Pabowa Nulli and Bangar recently added to the Kaithal *tahsil* the percentage which the area of crops harvested bore to the total cultivated area, taking the average of the three years 1883-84 to 1885-86, was 66½ and 72¼ per cent.

System of cultivation
in *patana*
Indri.

235. The following account of the system of cultivation followed in Indri is taken almost *verbatim* from the assessments report.

Proportion of
kharif and rabi
crops.

236. In the Khadir *Rabi* crops predominate. In the Bangar, the area under tillage in both harvests is about the same; for the great extent of irrigated cultivation in the *rabi* makes up for the smaller area under dry crops. In the thirsty Nardak soil, the *kharif* harvest is the most important.

Proportion of *brat*
class crops.

237. If we exclude fine rice, the cultivation of which depends mainly on abundant rains, the total area under the better class of autumn crops varies little from year to year. Maize is largely raised on land which can be irrigated if necessary, and though a considerable falling off occurs in a bad year, this is balanced by greatly increased sowings of toria. This crop is much cultivated when the autumn harvest has failed, in order that the people may have wherewithal to pay the Government demand, and the wheat land is sometimes sown for its sake. It is put in in October, and reaped in the month of January. Coarse rice is not an important staple, except in the Nardak, and *urd* is only grown to any large extent in the Bangar, though some *urd* is always sown along with unirrigated maize. The proportion of superior autumn crops grown in each circle is shown below:—

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green crops.

Year.	Khadir.	Bangar.	Nardak.
1892-94	19	12	34
1894-95	23	15	34

The percentage is highest in the Khadir, owing to the larger amount of cane, maize, and *siri* raised in that circle; but the cultivation of these crops will be greatly diminished by the sluicing of the old canal below Indri.

The proportion of wheat in the different circles is as follows:—

Year.	Khadir.	Bangar.	Nardak.
1892-94	22½	15½	4
1894-95	30	20½	6

In the Bangar, wheat can only be grown at all as a dry crop in the north of the circle, and in the Khadir lands of Khadir-Bangar villages.

238. Purely *khairif* cultivation is chiefly found in the case of *kaler dahar*. By far the greater part of the rice land is of this description. In a year in which the rainfall is reasonable and abundant, a crop of coarse *janthi* rice can be raised, but the soil is too poor and stiff to yield a spring crop.

Cultivation of *Sesam-*
lands in Indri.

There is also some very sandy soil in the Khadir, and some high land off which rain water drains rapidly in all the surrounding circles, in which only inferior autumn crops, such as *chani*, *bagra*, and *muth* can be grown. Such high land is locally known as "*thali*." It is less usual to find land which is only cultivated in the *rahi* harvest. This system is chiefly followed in the case of land which lies so low, as to be usually under water in the rains, and there is little of this description, except in the Khadir.

Three-fourths of the barren land is of the kind known as "*magra*" (see para 4). The people have learned that, where the clayey is at all level, the most profitable method of farming is to put in a spring crop in the end of one agricultural year, and an autumn crop in the beginning of the next, after which the soil is given a year's rest. There are obvious advantages in adopting this system. After the *khairif* harvest, the land is

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barren lands in
India.

exhausted by the fact that it has borne two crops in succession, and it is also, as the result of the rains, overgrown with grass and weeds. Besides, the pulses, *chauri*, and *jowar* raised on unirrigated land are not reaped until the season for sowing grain is past. An industrious man ploughs the land as soon as rain falls in January, eradicating the weeds and exposing the soil to the air. If the spring crop to be raised is grain, the land will not be ploughed again till July, and possibly not till September. The grain is sown in land which has recovered its strength and is tolerably free from weeds. The growth of weeds and grass in the cold weather is insignificant, and the *chauri* which succeeds the grain is also grown in comparatively clear soil. The same system exactly is followed in the Bangar and Nardak on all outlying or "*jangal*" wells; but the crops grown are of course different. The main feature of the dry cultivation is its extreme precariousness in the uplands included in the Bangar and Nardak circles. The rainfall decreases as one proceeds westward from the river, and the stiff soil of the Nardak, which needs most, gets least. But the worst features of the meteorology of the district, are its unequal distribution from year to year, and its frequent unseasonableness. The average is about the same as in the Nawashahr *tehsil* of Jalandhar, but, while the yearly total there has, in the last 20 years, only once been less than 20 inches, in Karnal it has fallen below that figure four times. When we realize that in *rabi* 1835, the Bangar and Nardak had 14,748 and 11,047 acres of dry crops respectively, as compared with 2,020 and 1,241 acres in *rabi* 1894, and that even in the Khadir the area in the one year was double that in the other, we can appreciate the terrible uncertainty of the harvests. It is only a small part of the difference which is due to the non-irrigation in 1894 of crops raised on well lands.

Double-cropping in
India.

239. In the Bangar and Nardak, double-cropping is practically confined to the irrigated and manured lands close to the village. In addition there is a good deal of superior rice land known as *nala*, in which, under favourable circumstances, *crab* rice is followed by grain. Occasionally a small irrigated plot in the homestead lands may bear, in a twelve month, successive crops of maize, barley, and tobacco. In that case the barley will very probably be cut green for fodder.

Cultivation of well
lands in India.

240. In the Bangar and Nardak circles, the wells are classed as "*gora*" or homestead wells, and "*jangal*" or outlying wells. The former are those situated in the lands immediately surrounding the village. One reason for the fertility of such land is well known. But besides, in these two circles, all the manure is expended on the homestead fields. The cultivation is, therefore, to a large extent, *do-fasi*. Where the people are very industrious, and manure is plentiful, one finds double-cropping all over the area watered from the *gora* wells. If the supply of manure is limited, the *do-fasi* area is less. As a rule, the inner belt of

the *gora* lands is usually *do-feshi*, while the outer belt is mainly *ek-feshi*. Where the Bangar cultivator intends to take a double crop, he ordinarily puts in maize in June, manuring the fields heavily. This manure is intended to benefit both the autumn and spring crops. Indeed, its effect on the latter is probably greater than on the former. As much as 600 or 700 maunds of manure per acre is sometimes put in, but usually half this quantity is considered sufficient. Maize in the Bangar is generally followed by barley or carrots; or, where the tillage is somewhat inferior, by a mixed crop of gram and safflower, or gram, safflower, and turia. In the best Bangar villages, and almost universally in the Nardak, wheat follows maize. In the outer *gora* fields, wheat is often cultivated as the sole crop of the year, or wheat is followed by cotton, and the land allowed a year's fallow after the cotton has been picked. In all but the very best Bangar estates, the *gora* lands are mainly devoted to raising the food of the cultivator. It is different in the Nardak, where there are fewer outlying wells on which to grow the revenue paying crops, and where the character of the soil favours the cultivation of wheat. The Nardak *gora chaki* cultivation, except in the villages in the north-east of the circle, is inferior to that in the Bangar. In the south, maize is sown as an unirrigated crop on the homestead well lands, and in these circumstances manure would be harmful, and is not used. Nor is the irrigated wheat which follows the maize manured.

The outlying or *jangul* wells are cultivated on the *ek-feshi* system. The lands attached to them are not manured. The object of the *minidar* is to raise as much wheat as possible upon these wells; but experience has taught him that, even though the land is not cropped in the autumn harvest, it is impossible to put in wheat more than twice in succession without exhausting the soil. Provided the land is treated properly, the produce of the unmanured wheat on the outlying wells is supposed to be superior to that of manured wheat grown in the homestead fields. In order to restore the quality of the land, unirrigated gram is substituted for wheat in the second or third year, or the wheat is followed immediately by cotton, *urd*, or *chari*, and the land is left for a year, after which wheat is again sown.

It is the cultivator's object not to be compelled to work these wells in the autumn harvest. If he is lucky, even the cotton will ripen without artificial irrigation. The area attached to the well is often far larger than can be watered in any one year, and a considerable part of it will be found in any particular harvest under dry crops.

The very small amount of *do-feshi* land on the homestead wells in the north of the Khadir is very striking. Manured wheat is put in yearly, or wheat is followed by cotton, and the land given a rest for a year. Occasionally wheat is followed

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by maize, and the latter by barley, or grain and barley, or cotton and cane, or maize and cane, are grown within two agricultural years. The land is too poor to bear double crops regularly without more manure than is available. A good deal of cane is raised on the outlying wells and the cropping on them is not markedly inferior to that in vogue on the homestead lands.

Manure is carried much farther from the village site in the Khadir than in the Bangar, but if the well lands are too distant to get any manure, *chari* takes the place of cotton or maize after wheat. In the south of the circle the system of tillage followed on the homestead wells is more like that which prevails in the Bangar.

A good idea of the cropping of the well lands in each circle in a dry year, when the wells have to be worked to their full-st capacity, can be obtained by considering the average area per wheel or bucket put under each crop in *kharij* 1883 and *rahi* 1884.

Circles.	Soil.	Area per well or bucket.	DISTRIBUTION OF CROPS IN ACRE.							Area per well or bucket.	DISTRIBUTION OF CROPS IN ACRE.				
			Cotton.	Cane.	Maize.	Wheat.	Muslin.	Other crops.	Pulses.		Wheat.	Barley.	Peas, &c.	Other crops.	Pulses.
Circle	Khadi.	1	3	3	12	12	1	3	3	4	12	12	1	1	3
Bangar	Chari.	1	4	12	12	3	3	3	3	11	12	12	3	3	12
Bangar	Chari.	1	4	3	3	3	3	3	3	3	12	12	3	3	12

In the Nardak, as noted above, the wells are not used at all for the autumn harvest in a year of good rainfall, but the homestead fields are cropped with unirrigated maize and cotton.

Rabi cultivation
in Indri.

241. The *Jammunialab* is on the whole inferior to ordinary *berani* Khadir soil. It is only valuable in dry years. In a wet season, the autumn crops are drowned, and the land lies so long under water that it cannot be properly prepared for the spring crops, which are choked with noxious weeds.

Rabi crops of course predominate. There is a good deal of double cropping, maize being followed by mixed crops of barley and *muslin*, *alai*, &c.

Exhaustion of the
soil.

242. There is no reason to suppose that the soil is being exhausted. The description given of the system of tillage in *pages* 232—240 shows that the powers of the land are not unduly strained, and the number of enforced fallows due to failure of rain in the Bangar Nardak is an effective safeguard

against over-cropping. Complaints are sometimes made of the increase of *red* in the Khadir, but it is doubtful whether they are well founded. Some of the hard *lahar* land in that circle has undoubtedly been abandoned since last settlement, but its cultivation can never have been worth much.

243. The dry lands of the Nardak, Kaithal and Pohowa Bangar, Audarwar, and Kaithal and Pohowa Nalli cover 80 per cent. of the *barani* area and 68 per cent. of the whole cultivation of the *tahsil*. The dry crops are the same in all four circles, *jowar* with *arid*, *bajra* with *mung*, and *gram* with *sirsaam*. The *bajra* is usually the small variety called *bajri* which yields several small spikes on one stalk and has a very small grain. *Moth* and a little *til* are sometimes sown with *bajri*, especially in the lighter lands in the south of the Bangar Circle. Although *bajri* stalks furnish but poor fodder, the *Jat* of the southern Bangar is too hard pressed for food for his cattle to throw them away, and *bajri* ricks, often blackened with age, scattered here and there about the fields, are a curious feature in some Bangar estates. Such ricks are kept even for six or seven years, if the occurrence of severe drought does not cause them to disappear sooner. Coarse rice is an important staple in the Nardak and Pohowa Bangar. Cotton accounts for 3 per cent. of the *kharif* in the Kaithal Bangar, 4 per cent. in the Nardak and Kaithal Nalli, and 5 per cent. in the Audarwar and Pohowa Nalli. In the spring harvest mixtures of *gram* with barley or wheat are found, but the typical crop is *gram* with a small amount of *sirsaam* sown with it. *Sirsaam* also occurs as a crop by itself, but is usually sown in lines among the *gram*. *Gram*, *sirsaam*, *jauchana*, and *gochani* practically absorb the whole area of dry spring crops. In the Powadh *moth*, *bajra*, *til*, and *gunes* are the autumn crop for *tibbi* lands, *moth* sown by itself being by far the most common. In the level loam lands, *jowar* or *chari* with *arid* or *mung* are grown. Cotton is almost unknown as a dry crop in the Powadh. *Gochani* is the great spring staple in the Powadh, but there is a good deal of *gram* and *jauchana*, and, in good years, of wheat.

244. Well lands near the village site are known in the old Kaithal *tahsil* as *niai chahi*. In the Powadh such lands are largely double-cropped, maize or *jowar* being followed by wheat, *gochani*, or carrots. The maize is carefully manured. When cotton is sown in *niai* land it is often succeeded by carrots. On the outer walls *ed-fauli* (*sunus*) wheat is the great crop. Cane, cotton, red pepper, and *jowar* are raised on both classes of wells, but cane grows best on the outlying lands. If sown in *niai chahi* land the juice is watery. There is some double-cropping even on the outer wells. On the whole the irrigated area fluctuates little from year to year. *Jowar* is the only important *charif* staple usually grown in well land which can often be raised without watering. In the Audarwar the *charif* *niai chahi* crops are *jowar*, *bajra*, and sometimes cotton. There is no cane

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lands in Kanthal.

or maize in this circle. If a *zamindar* grew cane, he would have to sacrifice his wheat, for with such a scanty rainfall, the bullocks could not work the cane mill, and keep the wheat alive at the same time. Maize is not grown because of the difficulty of protecting it from wild animals, and because the straw is of little value as fodder. *Rajra* is usually followed by wheat, *jowar* by wheat, carrots, or tobacco, and cotton by carrots or tobacco. But there is less double-cropping in the Andarwar than in the Powadh; and in some even of the good villages there is little or none. The outer wells are cultivated on the *ek-faili* system described in para. 240. The *khairif* crops are rarely watered. In six years an outlying well field would probably yield three unirrigated autumn crops (*jowar* or cotton), one unirrigated spring crop (gram), and two irrigated spring crops (wheat). This is one reason why the average watered area in the Andarwar falls so far below the recorded irrigation. The hard red wheat of the Andarwar has a great local reputation. The well cultivation in the Kanthal Nalli is of the same type as in the Andarwar; but there is even less *khairif* irrigation. In illustration of the above remarks it is worth while to give a detailed analysis of Powadh and Andarwar well crops. In the following table the distribution of the average irrigated area of four years 1883-84 to 1886-87 among the various crops is shown:—

		Distribution of crops in acres per well.													Irrigated area per well.	
Circles.		Cane.	Cotton.	Maize.	Long sown and Pango wheat.	Spring and chaff.	Rajra.	Other crops.	Total khairif.	Wheat.	Cotton.	Other crops.	Total raab.	Total well harvest.	Estimated area per well.	
Powadh.	..	7	3	17	3	4	..	4	24	4	4	14	30	92	11	
Andarwar.	..	..	3	..	..	10	7	7	14	24	4	17	34	70	143

The cultivation of well lands in the Peshwa Bangar and Nalli is very similar to that in the Andarwar Circle, as the following statement showing the distribution of irrigated crops in 1883-84, when the wells were strained to the utmost, will show:—

CIRCLE.	Area watered per hectare.	Distribution of crops in acres.					Area watered per hectare.	Distribution of crops in acres.					Area watered per hectare.	Irrigated area per hectare.
		Cane.	Cotton.	Maize.	Wheat.	Other crops.		Wheat.	Maize.	Gram.	Other crops.	Other crops.		
Bangar.	12	..	03	04	03	01	01	09	20	02	04	03	104	11
Nalli.	24	..	02	02	03	10	01	07	09	..	04	04	104	2

Cultivation of
canal irrigated lands
in Kanthal.

245. The canal cultivation in the south of the Bangar and Nardak is poor. Cotton, indigo, and coarse rice are the chief *khairif* staples, but the cultivation of cane is spreading. Wheat

is the principal *rabi* crop, but gram and *gochans* are also largely grown. Though the supply of manure is abundant, it is only used for cane. Indeed the people have much to learn as to the means of getting the most out of canal irrigated lands.

246. Three-fourths of the *sailab* crops in the Kaithal, and four-fifths in the Pehowa, Nailli belong to the spring harvest. Gram alone or mixed with wheat accounts for three-fifths and wheat for above one-fifth of the *rabi* crops. In a really good year the gram is splendid, and wheat in the flooded kut of the Kaithal Nailli is occasionally as good as well irrigated wheat elsewhere. But a really good season in the Nailli occurs but rarely. The most important autumn crop is coarse rice, of which three varieties, *santhi*, *dhaula*, and *chulaka* are grown.

247. *Sugarcane*.—The principal varieties sown are *Sarta* or *Sotba*, with a long, soft, thick, white cane; the best of all, but somewhat delicate, and especially fancied by jackals. *Lalri* with a hard, thin, red cane; very hardy, and will not spoil even if the cutting be long delayed; but not very productive of juice. *Morathi* with a thick, short, soft cane, and broad leaves; it is very productive, but requires high cultivation, and suffers from excess of rain; it is not much grown. *Paunda*, a thick sweet variety; grown near the cities for eating only, as its juice is inferior. Cane grows best in fairly stiff loam, and worst in sandy soil. It likes abundant rain, and will stand a good deal of swamping, though too much makes the juice thin. It is occasionally grown in flooded land without irrigation; but the yield is poor and precarious. Its cultivation is far more laborious than that of any other staple. The land must be ploughed at least ten times, and worked up to the finest possible condition. The *zamindars* say—*Gehan bisi, ikh nai*, i.e., plough wheat 20, and cane 30 times, but that is a counsel of perfection. The more manure given the better the yield; and it is never sown without. If the soil is impregnated with *sch*, the juice becomes watery, and yields but little sugar. Cane is occasionally grown a second year from the old roots and is then called *munda*. The yield is inferior. A full account of the cultivation of cane and the manufacture of gur is given in paras. 444-447 of Mr. Ubbetson's Settlement Report.

Young sugarcane is attacked, when about a foot high, by a worm called *kanana*, especially if the east wind blows. A smut called *ai* also attacks it under the same circumstances. Mice do much harm; and also white ants and frost. The *khals* or native sugar mill is now being superseded by the Behar mill with iron rollers.

248. *Cotton*.—No varieties of cotton are recognised by the people. It grows best in stiff loam; worst in sandy soil. It is better, if possible, to grow it by the aid of rain alone, and without irrigation, after sowing at any rate, till the rains are over. The more manure the better; but it often follows sugar, when

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Sugarcane.

Cotton.

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Cotton.

no fresh manure is given; and in the Nardak it is grown without manure. As it can be grown without manure it is a favourite crop on outlying (*jangal*) soils. On the canal it is sown a full month earlier than elsewhere, as the ample supply of water enables the cultivator to make the land moist enough before sowing to carry it through till the rains. The ground is ploughed twice and the *sohaga* used; the seeds are rubbed in cow-dung to prevent their sticking together, and sown broadcast. When the two seedleaves appear it is weeded, and twice again after that; the saying being—

“*Nantai wakh dopatti*”

“*Kga chugaga kuppatti.*”

“If you don’t weed when there are two leaves, you will pick nothing.” When it begins to flower it especially wants water, which must be given if necessary; for if it dries, and especially if the east wind blows at the same time, the flowers fall off and the pods don’t form. It generally gets watered again with the other crops which are sown among the plants.

The picking is done gradually as the pods open. It is performed by the women of the house when they are not secluded; otherwise by the poor women of the village who take $\frac{1}{4}$ of the pickings in the earlier pickings when there is plenty of cotton, and more up to $\frac{1}{2}$ as less and less remains to pick. The last gleanings are left for the poor. The cotton as picked is called *kapas*, and is passed through a small hand-mill (*charkhi*), consisting of a wooden roller revolving in contact with a very small iron roller, the latter gripping the cotton and drawing it through, and so tearing it off the seeds (*hinda*) which are left on the other side. The *kapas* consists of about a third cotton and two-thirds seeds. The cotton thus ginned (*rai*) is scutched (*pinna*, *dhunhana*) by the *pumba* or *eli* with a large double-stringed bow (*pinna*, *dhunaka*) hung from a flexible bamboo, the strings of which he twangs violently with a heavy plectrum of wood (*tara*), and the vibrations toss up the filaments and form them into a fleece, leaving the dirt at the bottom. For this he takes the weight of the cotton in grain. The women spin the cotton and give it to the weaver to weave, paying him one rupee for weaving about 60 yards. After the cotton is picked, the cattle are turned into the field to eat the leaves, and the dried stems (*banatti*, *hauchatti*) are cut down and used as withies for various purposes, or for fuel. The seeds are a valuable food for cattle, as they are very full of oil. Cotton is especially liable to the al smut, and to attacks of caterpillars, and of a red worm in the pod.

Maize.

240. Maize—Two sorts of maize are grown; the *pili* or early yellow maize, and *shauli* or late white maize. The former has the better grain, and the latter is the more valuable and ripens fifteen days later. Maize must have plenty of

water and must have at any rate a little fresh manure, even if sown after sugarcane. It grows best in light soils and well in sandy ones. It will not grow in very stiff soil. The ground is carefully dressed and the seed sown broadcast. It is weeded on the 10th, 22nd, and 35th day after sowing, or thereabouts. It cannot go a month, and should not go more than three weeks, without water; and it is only in good years that it need not be irrigated. If it once dries up, no after-watering will save it. A little early maize is often grown as fodder for the cattle; it produces hardly any grain. The maize is cut down and the cobs (*lutri*) picked off, stripped, dried in the sun, and beaten with sticks to separate the grain. The unripe cobs (*khata*) are often roasted and eaten. The stalks (*kharhi*) are good fodder, though not good as *janwar*. Maize suffers from a worm in the knot of the stalk, and especially from pigs and jackals. In *lutri* maize is an important crop on well (para. 240) and *miluh* lands (para. 241). In *Kathal* its cultivation is mostly confined to well lands in the *Powadli*, but a little is grown on *chaki* lands in the *Bangar* and *Naili* circles of *Pehawa*.

250. *Rice of all varieties*.—Rices are divided into two well-defined classes; the fine rice, varieties of *oryza sativa*, the grains of which cook separate, and which are known to the people under the generic name of *siri*; and the coarse rice, varieties of *oryza glutinosa*, the grains of which agglutinate when boiled, and of which the principal sorts are *manji* and *santhi*. The *siri* proper is a small rice with a short straw; the principal varieties are *ramahi* and *ramyama*, the latter of which has a particularly hard fine grain. *Saukar* and *sauari* are coarse rices, chiefly grown where there is fear of too much water, in which case their long straw gives them an advantage. Rice grows only in stiff soil. It is usually grown in low-lying *dakar* so as to take advantage of the drainage water; but if the water-supply is sufficient, the best rice is grown on fine stiff soil on a slope where the water is perfectly under control. The seed beds are ploughed four or five times and carefully prepared, manure is spread on them, and the seed sown broad-cast and very thickly on the top of the manure. More manure is then spread over the seeds, and the whole is watered. Four days after they are again watered, and after the fifth or sixth day, they must be kept wet till they are ready to plant out. The rice field is ploughed twice, and such manure given as can be spared. It is then flushed with some three inches of water, and a *mhaga*, toothed if there are weeds, is driven about under water (*gyark* or *jahan dawa*). If the weeds are obstinate, the plough must be used again under water. When the *mhaga* has worked up the mud into a fine slush, *Jhimwara* and *Chamara* take the seedling (*poth*) in handfuls (*juti*) and plant them one by one in the water pressing in the roots with their thumbs. An acre will take 500 to 600 *juti* which will cost, if bought, Rs. 1-4. It will take ten men to plant it in a day, and they get 2½ to 3 *seer* of grain each daily.

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Maize.

Fine rice.

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Flao rice.

The field is wooded once at least. At first the whole field must be kept under water continuously; for each seedling throws out five to ten new shoots, which cannot make their way unless the ground is pulpy, and it is on the abundance of these shoots that the crop depends. The water must not be more than 6 inches deep, or the shoots will be drowned before they get to the air, and it must not be changed, as it would carry away all the strength of the manure and the soil. When the ears are begin to form, the ground must be kept well wetted, but not too slushy, or the plants will fall. If the crop is wholly under water for more than four days, it dies. The reaping must be done directly the grain is ripe, or it will fall out of the ears into the water. Thus hired labour is a necessity, and the payment is 5 or 6 sers of unhusked rice. If the water is deep and the plants, as cut, have to be put on bedssteads to keep them out of the water, the reaping is slow; otherwise the same as other small cereals.

The rice is thrashed in the ordinary manner; but the grain has to be husked in the *chal*. Standing rice is called *ghan*, as is the unhusked grain, in contradistinction to husked, *ghawal*. The husking is generally done by the woman of the house. If done by a labourer, he returns 18 sers of *ghawal* from every 80 sers of *ghan*, keeping about 2 sers of good rice and as much of broken bits which he will grind up and eat as bread. The rest is husk, which is useless. The straw (*purali*) is very poor fodder, and is used largely for bedding for cattle, and for mixing with manure, or is even ploughed in fresh. But it is also given to cattle to eat. Rice suffers much from *khad* or *lakh*, apparently aquatic larvae or other animals that eat the young sprouts. Water birds, too, play terrible havoc with it when it is ripening. If the whole plant dries up, it is called *malain*; if the grain only, *pates* is what is the matter with it.

Coarse rice.

251. Coarse rice is of three kinds, *chalaka*, *munji* or *dhaule*, and *santhi*. *Chalaka* is grown to some extent in the Nali. It is an intermediate variety between *siri* and ordinary coarse rice, has a white grain with a broad beak of a purplish red colour at the tip, and a longish beard of the same colour. The peculiarity of *dhaule* is that it cannot be drowned out, the straw lengthening as the water deepens. It is therefore sown in spots liable to flooding. It will stand two feet deep of water; and if the ripe plant falls into the water, the grains do not fall out as they do with *siri*. It has a larger grain than *santhi*, from which it is also distinguished by the fact that the grain stalk, when the seed is ripe, separates itself from the sheath. The grain of *santhi* has a black husk, and ripens within the sheath. It is sown in Sark earlier than any of the other kinds, and its peculiarity is that it ripens within an extraordinarily short time (nominally 40 days, hence its name) from the sowing; it is sown all over the Nardak, and generally wherever there is no irrigation, as the rains will usually last long enough to ripen it.

Henan Tsang noticed its quick growth with admiration when he visited the Nardak 1,300 years ago. *Santhi* has a short straw and does with but little water, it being sufficient if the soil is thoroughly moist after the shoots are once up. The young shoots are liable to be eaten, and if the water gets very hot they will sometimes rot; but the plant is wonderfully hardy, and when the stalks have once grown up, hardly anything hurts it. Both *dhani* and *santhi* are sown at once where they are to grow. After one or two ploughings, cattle are sent in to the water to walk about and stir up the mud, or the *gahan* or toothed *sahaga* is used under water. The seed is sown broadcast on the *gahal* or fine mud. No manure is used nor is the crop irrigated. The *purali* or straw is better fodder than that of *ari*, but still not good. The coarse rice forms a staple food of the people, the fine rice being sold and seldom eaten by them.

252. *Jowar* and *chauri*.—There are two varieties of *jowar*; the *pal* or *alapuri*, which gives a sweet large grain, but is delicate, and the *daul*, which is very hardy. *Jowar* grows best in medium loam, and is not grown at all in very sandy soil. It is seldom either manured or irrigated; but it is grown on well-land in the Andarwar circle of Kaithal and watered, if necessary. Throughout the Kaithal *tahsil* it is a very important crop and is usually grown for grain mixed with *and* (see para. 243). The land is ploughed two or three times, and, if very dry, a *sahaga* is passed over it. The seed is sown broadcast,—if grain is wanted, very sparsely (*chhida*), the plants growing large and strong, and yielding fine heads of grain; if fodder is the object, very thickly (*sanghud*), the plants growing together with thin stalks, giving little grain, but an immense deal of fine sweet fodder. If sown for grain it is weeded once at least—twice, if possible; and small pulses are often sown with it. When the crop is cut, the heads (*lari*) are picked off and the stalks (*chauri*) stacked for fodder. The finest heads are selected for seed and thrashed with sticks, and the others thrashed in the ordinary way. The seed heads are covered with a down which irritates the legs of the labourers. If the fodder crop in any field is very inferior, from late sowing or scanty rain, it is cut green, and is then called *chib*. *Jowar* suffers from worms in the *gaha* or bud; and a worm also eats the stalk, which then turns red and hollow inside, and no grain forms. But the plant is exceedingly hardy, and if there is plenty of rain, hardly anything hurts it. It is said to exhaust the soil more than most other crops. Most of the bread eaten by the people during the cold weather is made of *jowar flour*.

253. *Bajra*.—*Bajra* is little grown in Panipat or Karnal, but is, after *jowar* and gram, the most important staple in the Kaithal *tahsil*, where it is usually sown mixed with *mung* (para. 243). In the Andarwar circle it is often grown on well lands (para. 244). It thrives best in sandy loam such

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Coarse rice.

Jowar and *chauri*.

Bajra.

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Agriculture and
Arboriculture.

Bajra.

as is found in the S.-W. of the Kathal Bangar. It is sown much earlier than *jowar*. The mode of cultivation is just the same as for *jowar*; but it is always sown exceedingly sparsely, and some small pulses is generally sown with it, and grows betwixt the plants. The stalks are called *dandar*, and are poor fodder compared with *chari*. In the Bangar villages of Kathal, however, the *bajra* stalks are carefully stacked and are sometimes preserved for years, and are given to the cattle chopped up with green fodder, or even with the *ata* of grain (*pura*, 243). If rain falls on the flower (*bar*) it washes the pollen off; but hardly anything else affects it.

Mandua.

254. *Mandua*.—No varieties are recognized. It is grown in fairly stiff soil, but chiefly in the Khadir, and there only in small quantities. It is sown in seed beds carefully dressed and manured. The seedlings are then planted out in land which has been twice ploughed, and dressed with the *sohaga*. It is watered once, or twice if the rains are late, and weeded once. The heads ripen slowly, and the ripe heads are picked off and the grain beaten out. The *blusa* is very bad fodder, and is generally burnt as it stands, or grazed down. The flour is used for bread, but is very indigestible; but it has the advantage that it may be eaten on fast days, as it is plucked, not reaped like other cultivated cereals. It is the *rāgi* of southern India. In dry seasons its cultivation as a food crop is largely increased, it being put in fields intended for *ziri* which cannot be planted out owing to the drought. A poor variety is known as *mandua*.

The *kharij* pulses.

255. It is very difficult to state with any accuracy what the area under the *kharij* pulses is, as they are usually sown with *jowar*, *chari*, or *bajra*. In the Kathal Powadh, however, *moth* is commonly sown alone. It is sown in light or sandy soil. The ground is ploughed twice over, and the seed sown broadcast, and neither weeded, manured, nor irrigated. The *blusa* yields the best fodder of all the *kharij* pulses, but it cannot be stored, as it only lasts for one year. *Moth* with the grain unthreshed is a valuable fodder. The seeds of *moth*, *uril*, and *mung*, when harked and split, are called *dal*, and eaten largely by the people, generally boiled.

Urd grows in stiffer soil than *moth*. The *dal* is of the finest description, but the *blusa* is inferior to that of *moth*.

Mung is almost always sown and reaped with *jowar*, un-irrigated *maize* or *bajra*, chiefly with the latter. The *kharij* is not so good as that of *moth* or *uril*, but is still very good indeed. *Moth*, *uril*, and *mung* are very apt to be ruined by over-saturation in the Khadir.

Guara is a pulse cultivated in much the same manner as those above mentioned. It is grown for cattle only, the grain is boiled, and given as a fattening food to bullocks. Or it is coarsely ground and given dry. The *blusa* is worthless; but

the green plant is cut and chopped up and given to bullocks. It grows only in light soil, and is sown with the first rains, and always alone.

256. No varieties of *til* are recognized. It must be grown in good stiff soil; and the soil must be new to give a good crop, which is probably the reason why it is chiefly cultivated in the Nardak where virgin soil abounds. It is generally sown with *jowar* or *bagra*. When the plants are cut, they are put up on end to dry. As they dry, the pods open, and the seed is then shaken out. The stupa (*dasara*) are of no use. The seed is taken to the oilman, who returns two-fifths of the weight in oil, keeping the oil-cake (*khali*) which he sells. The oil is good for burning, and is the best of all oils for purposes of the kitchen. *Til* is very subject to attacks by caterpillars (41). And if it once dries up it never recovers.

257. *Sau* is sown, seed by seed, on the edges of the sugarcane field, or in rows among the cotton; and takes its chance with them. It is cut in Katik. The plants dry for two or three days, and are then, or when wanted, weighted down under water in the pond or in a well. They soak for 40 to 60 days in the cold, or 20 days in the hot weather. The fibre is then stripped off, washed thoroughly, dried, and is ready for use. The sticks are called *mukdars*, and are useless. The fibre is especially used for the *lao* of the well, as it is very strong, and stands water without rotting. It is also used for ropes in general; but does not wear so well as *arwi*.

Sau and arwi 1

Sau is sown in the best of soils only. The land is ploughed once, the seed is sown broadcast, and no further trouble is taken with it. It is sown in *Sau* and cut in Katik. It is dried and then steeped for 8 to 10 days in the cold, or half that time in the hot weather. The sticks are then washed, dried, and put away whole, the fibre being stripped off as wanted. It makes the best ropes of all, but will not stand constant wetting. The sticks are called *mukhi*, and are useless.

258. *Wheat*—It forms the chief spring staple of the Jammu Khadir irrigated portions of the tract. The principal varieties are the *pila*, the best of all wheats; *kanji*, with a long straw, and full ear, of somewhat inferior grain; *jogia*, a short wheat of good quality; and *lat* a very hardy and productive wheat of good quality, which does with less water than the others, and is sown in the inferior soils and in the unirrigated portions of the tract. There is also a beardless variety called *mundli*. Wheat and gram are very commonly sown together, especially in a year when failure of rain in September prevents the sowing of gram alone; but rain falls in October.

Wheat

[1] Mr. Baden-Powell, in his *Panjab Products*, warns the reader against confounding *sau* and *arwi*. He has, however, exchanged their names. Now is the leguminous *Crotalaria* and now the malvaceous *Hibiscus*.

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Wheat.

Wheat will grow in almost any soil, except the very stiffest where barley takes its place; and if there are good Christmas rains (muharrat) a fair crop may be got without irrigation. It is not grown alone as an unirrigated crop in the Indri Nardak or anywhere in Kaithal except in the Powadh and the flooded parts of the Nall. The soil is worked up in the most careful manner during the rains; and the oftener it is ploughed the better. It is generally sown after cane or maize, when no fresh manure is added; otherwise manure is almost always given, and the *Malis* and *Kains* use a top-dressing of ricki of some 12 or 15 maunds to the acre, when the plant is six inches to a foot high. The field is dressed laboriously with the *achaga*, and the seed sown broadcast. It is watered 20 to 30 days after sowing, according to the original wetness of the soil; and then, at intervals of a month, three times more on the canal, four times more in the Khudir. It is weeded after the first watering; and once again, in the Khudir at any rate, where the plants are numerous. It ripens suddenly; and hired labour is generally needed for the harvest, the labourers getting 5 to 7 annas a day in the ear. The straw is very fine fodder. The grain of wheat alone is not much eaten, it going to the *Banis*, while the people eat the mixed grains mentioned below. Wheat is very liable to smut, often called *dhunuchi* in this country, and rust (*fungi*). Sometimes the east wind in dull weather will make the ears curl and twist up; and this is called *maroria*. Late frost does it much harm if it has been sown so early that the ear is then forming, but not otherwise. Further information on the cultivation of wheat on well lands has been given in paras. 240 and 244.

Barley.

259. Barley sown alone is not an important crop in Karnal. It is the hardiest of all the small cereals, will grow in any sort of soil, and will stand either excess or deficiency of water. It may be sown later, too, than any other of the spring crops; and men may be seen sowing barley at the very end of the season on the edges of a swamp which is still too wet to plough, with the intention of ploughing it in as the soil dries. The limit to the sowing is expressed by the proverb, "*Poh Pah, diya kha*," "sow in Poh, and you lose your seed." The field is ploughed two to four times, the *achaga* is passed over it, and the seed sown broadcast. Manure is given if there is any to spare, which there seldom is, and water is given if the needs of the other crops allow of it. It is seldom weeded unless the weeds are very bad. The grain is much used by the people for bread; and the straw is admirable fodder. Barley sometimes suffers slightly from smut; but nothing else seems to touch it, wind and weather of course excepted.

Gram.

260. Gram—It is the great *barnai Rabi* staple in the Indri Bangar, the Karnal and Indri Nardaks, and throughout Kaithal, except in the Powadh. It grows best in stiffer soil. It is generally sown broadcast, and is often mixed

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Orten.

with wheat or barley. In the very stiff rice fields the *dhur* is ploughed up once after the rice is cut, so as to break it up into large hard clods, in the crevices between which the grain grows. Lighter land is ploughed two or three times, and is open much sparsely than stiff soil. No manure is used; and irrigation rots the plants, so that the soil should be very moist for sowing. If this is the case, and the Christmas rains are good, a fine crop is almost certain. Gram is never weeded. The grain is used as *dal*, and for bread; often in the latter case mixed with cereals. The *dhur* is admirable fodder. The young plant is used as a vegetable, the green seed is eaten raw, and at harvest time the plant is thrown on to a fire of grass, and the roasted seeds (*hole*) rubbed out and eaten. Either the phosphoric acid which the leaves deposit, or the down with which they are clad, is exceedingly irritating to the skin. The plant is exceedingly sensitive to frost; and a green worm called *small* attacks the seed, especially if the Christmas rains are late so that the ground is damp when the seed is sown.

261. *Mowar* is a small pulse, growing chiefly in the very light soils of the Khadir. The ground is ploughed twice, and dressed, and the seed sown broadcast, often mixed with barley. No manure is used; but it is irrigated if the labour can be spared. The grain makes very good *dal*; but the yield is *toddler* is insignificant.

Kaur or Mowar.

262. It is difficult to say what the area under *siraam* is as it is usually sown together with wheat or gram, often in rows (*ad*). It is largely grown in Kaithal, but the area fluctuates to an extraordinary degree with the character of the season. Two kinds are grown in the tract; the black, which is more hardy but less productive, and the yellow. It is grown chiefly for its oil, though the green plant is much used as a vegetable, and as green meat for cattle. If sown separately, it is neither weeded nor manured, and seldom watered. It ripens in Phagan, the earliest of all the *rabi* crops except *toria*; and the plants are picked out from the crop with which they are growing. The seed is called *dhakar*, and yields an oil which is the finest of all oils for burning, and is also good for cooking purposes, though inferior in this respect to that of *oil*. The oilman returns one-third of the weight of seed in oil if yellow, and one-fourth if black, and keeps the oil-cake. The *dhur* is called *turi*, and is worthless. The plant is subject to the attacks of a gregarious red caterpillar (*oil*), and is very sensitive to frost.

Rabi oil-seeds.

Toria is an oil-seed, one of the brassicas, deriving its value from the rapidity with which it ripens (see para. 237). It is sown in Bhadon and ripens in Poh; coming in just when oil is dear, and before the other spring oil seeds have been reaped. Hence the proverb—

Toria hai toria, wada choti hai,
Bhadon kina bhagya, pahunga tori hai.

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"The plough is yoked for the toria, when the ard creepers are already long. But hasten as you will, I will ripen along with you."

Methi

203. *Methi* is a trefoil, used only as green fodder for cattle or as a pot herb. It is generally sown, sometimes with a little grain or *gram* mixed with it, between the cotton plants. Before the pods open, the ground is grubbed up with a hoe and the *methi* sown. It is watered the day after and again at intervals of 20 days or less as it needs a great deal of moisture. It grows very thick and close, and is cut green. It only yields one cutting.

Tobacco

204. Tobacco is very generally grown in the villages, but mostly for private consumption only, except where local peculiarities are especially favourable.

The plant grows best in a nice loam soil neither too stiff nor too open. A slight saline impregnation improves the plant; and the water of bitter wells, or of the dirty village ponds, is best. Canal water is too pure. The land is ploughed 8 or 10 times, dressed most carefully, and laid out in ridges some 2 inches high and 8 inches apart, the seedlings being planted half way up the ridge on either side alternately and about 8 inches apart; for if water lies about the stem, it injures the plant. This is done in *Magh* or *Phagan*. They are then hand-watered with manure dissolved in water. Solid manure is generally used as a top dressing, as less is thus required. The dung of goats and sheep is the best, and old dry cowdung mixed with ashes. The field is watered every 10 days or so; and the hoe is then freely used so as to keep the earth about the roots open and the weeds removed. As the leaves grow they are sprinkled with *reh* or *ash* to keep off insects and improve the flavour; and the flower-bearing pedicles (*gol*) are nipped off as fast as they appear. This plant is ready to cut in *Jeth*. The whole plant is cut in the morning, and left in the field for 24 hours to dry. Next day they are piled up and left to dry further. A hole is then dug and the plants are packed into it, covered up with *dhat* or *at* leaves, and left to ferment for five to ten days. The leaves (*pat*) are then stripped and either tied up into hands (*juti*) or twisted into a thick rope. They are, if necessary, further fermented; and are finally dried and kept for use. When tobacco is wanted, the leaves are cut up and powdered with an equal weight of *gur* in a mortar.

Safflower

205. *Karar* or safflower is usually sown very sparsely, with gram or on the edges of the fields, seldom by itself. Only small quantities are sown. The soil requires little preparation and no further care. When the flowers open, the women pick out the petals; three days later they repeat the operation; and again a third time after the same interval. If hired they take a quarter of the picking as their wages. The petals are bruised the same day in a mortar, rolled between the hands, and pressed slightly into a cake. Next day they are rolled again, and then spread in

the sun for two days to dry, or still better, one day in the sun and two days in the shade. One set of seeds will give a quarter of a set of dry dye. Any delay in the preparation injures the dye. The dry dye is called *Kashankh*, and is the yellowish red colour with which the clothes of the village women are ordinarily dyed. The dyer (*aiyaz*) has the cloth and dye brought to him, retains one-fifth of the dye as a perquisite, and is also paid for his trouble. A better oil is expressed from the seeds, which is used for burning only. Forty sets of seed will give 1½ sets of oil. *Bakhar* is a general name for the oil plants (*Sesamum*, *Perilla*, *Laurus*, *Alsi*, *Sil*, and much of *Laurium*).

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Ballwara.

206. The mixed crops proper are confined to the spring harvest, for the small pulses are constantly grown during the huge raillets in the autumn are reaped and threshed separately. In the spring, however, mixed grain and barley (*Kashankh* or *barra*), wheat and gram (*gohani* or *barra*), wheat and barley (*gohi*), are commonly sown and reaped together, especially the two former. This custom has brought on the Indian cultivator much very undomesticated hard language. It is true that the mixed grains have no export value; but then he does not grow them for export, or even, as a rule, for sale. In one village the people complained that their *barra*, to whom they were in debt, would not let them grow mixed grain. The peasant devotes his best soil, his manured and irrigated fields, sown at the proper season, and when neither too wet nor too dry, to the single grain which he will sell to his banker. In the remaining land he grows mixed grain which he eats himself, liking the varied flavour, and especially finding the nutritious pulses an indispensable substitute for the animal food which religion or poverty forbids to him. Besides this, the three crops which are sown together flourish under different circumstances; and a season which destroys one will very likely suit the other, and so gives a fair yield in the end. If it is rather late to sow gram alone, he sows gram and wheat; and if the soil appears very wet, he will sow gram and barley. The damp will suit the barley, while if there are no Christmas rains it will save the gram. The frost which will kill the gram will spare the others; while the dew on the gram leaves will help the wheat, and the wheat and barley will shelter the young gram from the sun.

Mixed crops.

207. Such rules as are observed by the people regarding the rotation of the crops are, of course, founded upon experience only, but it has proved an excellent guide. The soil in which the spring crops are grown is called *dathan* or *bladen*, according as it has or has not borne a crop in the autumn immediately preceding; the former name from *dathan* a chalk, as the stalks are generally left in the hurriedly prepared ground; the latter from *bladen*, the month in which they begin to plough the field. In double-cropped land the nature of the crop to follow is chiefly determined by the date at which the autumn crop is cut, and the interval thus afforded for the preparation

Rotation of crops.

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Arboriculture.

Rotation of crops.

of the soil. Thus maize, which is cut early and usually manured, is often followed by wheat. Cotton is frequently followed by cane, which is also often sown after *jowar*, manure being added. Cotton is often sown after cane or wheat; and wheat will often follow cotton or cane, with a season's interval. *Jowar* or *chauri*, which is very exhausting, is seldom followed by any spring crop. Rice, except in *kalar dahr* soils, where nothing but rice is sown, is almost always followed by grain or mixed cereals; the stiff wet soil being in many cases incapable of producing anything else, while the pulas following the cereal does not seem to suffer, judging from the crops often produced. And in the swampy mud villages, where the whole area is often too wet to grow anything but rice, barley is sown in every field in the spring, not because there is much hope of a tolerable grain crop in the swampy fields, but because some sort of fodder must be had, and rice straw is of but little use. Manured land is never allowed to rest more than one season at a time, while the highly-austere land close to a town will yield, with the help of vegetables and *chini*, three or even four crops in a year. Except in rice land and swampy villages, land is seldom double-cropped without manure. Further remarks on this subject will be found in *pages* 238-240, and the following may be taken as embodying the more usual rotation on ordinary dry loam soils and on soils lying outside the manured belt (*gora*) round the village site:—

(a).—Rotation of crops on unirrigated loam soils.

Crops.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
<i>Rajah</i> and <i>Nandak</i> .	Gram.	Chauri or jowar and wheat, or cane.	Fallow.	Fallow.	Gram.	Chauri or jowar and wheat, or cane.	Fallow.	Fallow.
<i>Dadri</i> .	Wheat, or jowar and barley, or barley.	Chauri, or jowar and wheat.	-	-	Wheat, or jowar and barley, or barley.	Chauri or jowar and wheat.	-	-

(b).—Rotation of crops in *calce* (*jawal*) soils.

Crops.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
Wheat (<i>irrigated</i>).	Fallow.	Gram (dry).	Fallow.	Wheat (irrigated).	Fallow.	Gram (dry).	Fallow.	Fallow.
Wheat (<i>irrigated</i>).	-	Wheat (irrigated).	Chauri (dry).	Fallow.	-	Wheat (irrigated).	-	-
Wheat (<i>irrigated</i>).	and (dry).	Fallow.	Fallow.	Wheat (irrigated).	-	Gram (dry).	-	-
Wheat (<i>irrigated</i>).	Cotton (dry or irrigated).	-	-	Wheat (irrigated).	Chauri (dry).	Fallow.	-	-

Those tables were originally prepared for Indri, but they apply pretty generally. Of course the orthodox twelve months fallow in the case of unirrigated land is much oftener broken into in the Khedg than elsewhere.

268. The three tables below show the estimates which were used by Mr. Robinson and Mr. Donie to calculate the value of the gross produce of the principal staples for purposes of assessment in the Settlements of 1886 and 1888. The latter framed no estimates for crops, such as cane, cotton, &c., for which cash rents are paid. Further information on the subject will be found in the printed Assessment Reports.

4-CHILD IS BORN PER ACHS OF UNOWNIN FAMILIAT AND PARASABA KARNAL.

[illegible]

B.—YING IS ONE OF THE 48 IN IMMEDIATE ZONE IN KANGAS & PANGAS MOUNT.

Tract.	Assessment Circlo.	Maise.	Wheat.	Barley.
INDRA	Khulle	340	400	440
	Hanger	600	400	510
	Nardak	200	400	320
KATHAL	Powalla	500	400	400
	Audhwar	500	...	500
	Hanger Pehowa	400	...	500
	Kalli Kathal	500	500	400
	Kalli Pehowa	500	600	500

(1) The estimates for steel are 140 tons. — J. M. D.

Chapter IV. B.

CL—TAKES IN 1888 THE LAKHS OF HUNDREDED CROPS IN EASTERN & PUNJAB DISTRICT.

Live-stock.

Average yield. Pro-
duction and con-
sumption of food
grains.

Time	Estimated Crop	Value above the soil	Value of the soil	Value of the soil	Value of the soil	Value of the soil	Value of the soil	Value of the soil	Value of the soil	Value of the soil
1888	Wheat	250	250	250	250	250	250	250	250	250
	Barley	250	250	250	250	250	250	250	250	250
	Other	250	250	250	250	250	250	250	250	250
EASTERN	Wheat	250	250	250	250	250	250	250	250	250
	Barley	250	250	250	250	250	250	250	250	250
	Other	250	250	250	250	250	250	250	250	250
	Wheat	250	250	250	250	250	250	250	250	250
	Barley	250	250	250	250	250	250	250	250	250
	Other	250	250	250	250	250	250	250	250	250

The average consumption of food per head has already been noticed in para 24. The total consumption of food grains by the population of the district, as estimated in 1875 for the purposes of the Famine Report, is shown in mounds in the margin.

Crops	Actual mounds	Estimated mounds	Total
Wheat	1,100,000	1,100,000	2,200,000
Barley	1,100,000	1,100,000	2,200,000
Other	1,100,000	1,100,000	2,200,000
Total	3,300,000	3,300,000	6,600,000

The figures are based upon an estimated population of 6,10,000 souls. On the other hand, the average consumption per head is

believed to have been over-estimated. A rough estimate of the total production, exports, and imports, of food grains was also framed at the same time; and it was stated (page 151, Famine Report) that some nine lakhs of mounds, principally wheat, were annually exported to Delhi and Amritsar and about 212,000 mounds of wheat, barley, gram, bajra and smaller pulses imported from Patiala and Bhawal.

SECTION B—LIVE-STOCK.

Cattle.

269. Table No. XXII shows the live-stock of the district as returned in 1888-89. In a tract like the Nardak, where Rajpoots predominate, and only a small portion of the area is under the plough, it will be readily understood that cattle-breeding

(2) Value in the Nardak is nearly seven times as much as the estimated but not watered (para 240).

furnish no unimportant element in the means of subsistence. In the large Rajput villages, it may, in fact, be said that cultivation holds an entirely subsidiary position. The people look upon the manual labour of agriculture as to some extent derogatory, while the proudest of them thinks it no shame to tend his herds; the yield of their fields is eminently precarious, and only follows on the expenditure of labour and capital, while their cattle yield *ghinaud* calves in the exercise of their natural functions. Thus the Narkak Rajput's chief agricultural care is to secure a plentiful supply of fodder from his *faras* fields. The general area of the tract is a high flat slope from which the rain water runs off almost as fast as it falls; and what scanty grass does spring up, is taken at once before it disappears under the burning heat of the sun. But every village is situated on a drainage line of greater or less magnitude; and in the hollows, where the earth is protected by the shadow of thick *dhak* forest, grass grows with great luxuriance, and is both pastured and cut and stored for use in the hot weather. The hollows, too, which surround the cultivation, generally enclose a good deal of uncultivated land, and large blocks are often fenced off as grass preserves (*dhir*). In these spots a plentiful crop of grass is to be found in fairly favourable seasons. Notwithstanding this, by the beginning of April the supply begins to run short, the pools in the *faras* have dried up, and the mass of the cattle are taken away in large herds (*gha*) either to the *dams* of the Siwaliks, or, where the existence of friendly relations with the villagers renders it possible, to the riverain and canal villages. As soon as the first rains promise a supply of grass and water, these cattle return, accompanied by the herds of the canal and riverain tracts, which the rising floods have driven from their homes, and often by those of the arid tracts of Hariana, where the season has been less favourable. Thus the cattle-farming capacity of individual villages depends not so much upon the actual area of pasture land as upon the extent to which that area is occupied by hollows and drainage lines. Many villages are compelled to call back for pasture upon neighbours who have a smaller but more favourably situated area; and in some villages considerable sums are yearly paid as grazing fees to other communities. In Kairthal Jat villages there is a rule broken up almost all their good grazing lands and often have to pay their Rajput neighbours for pasturage. Besides cattle, a large number of sheep and goats are pastured in the tract, chiefly by the non-proprietory community.

270. Kind or *dhean*, consisting of buffaloes and cows, are kept by almost all villagers, and their milk furnishes the only animal food which they, as a rule, enjoy. In the Narkak they form the mainstay of the people, while in every village the surplus *gha* produced forms a substantial addition to their income. Of the two kinds of kind the buffalo is infinitely the more valuable. If a villager loses his cow, he only grumbles a

Chapter IV, D.

Live-stock.

Horned cattle.

little harder than usual; if he loses his buffalo, he sits down and cries. A female buffalo (*bhains*) is worth Rs. 40 to Rs. 100. After four years old she will give a calf every 18 months, to the number of seven or eight or even more. The heifers (*jatai, katri*) are not sold; but the steers (*jetri, katra*) are gult and sold when some two years old to be used as pack-animals. They are called *jata* when grown up. The buffalo eats all the coarse swamp grasses which the cow will not touch, and which would otherwise be useless; and as long as they have a daily bath in the pond, are hardy animals. The cow (*gai*) is worth from Rs. 10 upwards. After four years old she will calve once in every twelve to eighteen months on the average, generally in Chait or Baisakh. She will calve about six times. The steers (*bakra, bakhra*) are gult and kept for the plough as oxen (*hathi*), or sold at three years old for from Rs. 15 to Rs. 20. The heifers (*bakri, bakhri*) are seldom sold unless they drop their young. No care is taken about the breeding of oxen, the bulls (*biyar, khaggar*) being simply the young bull calves let go on the occasion of a death. The buffalo bull (*bhainan*) is sometimes chosen by a group of villagers and let loose, but it is often let loose in the name of *Devi* or of the *Pir*, and these latter may be of any sort of breeding. Both sorts of bulls roam about the *jungal* and mingle with the herds at pasture.

Grazing and food.

271. The cattle are grazed in herds (*gal*) by herdsmen (*pathi*), usually boys and lads, except in the Rajput tract where men go and for fear of attempt at theft. In the cold weather they go out as soon as the dew is off the grass, and return at sunset. In the hot weather they graze from dawn till 11 A. M. and from 2 till evening, returning to the village to drink in the middle of the day. In the rains they also graze for three hours before dawn, returning to the village to be milked. This last is called *pasir*, and has a great effect upon the milk, the cattle grazing more freely when not teased by heat and flies. The plough cattle often go for *pasir* both before dawn and after sunset in the rains.

The principal kinds of grass have been described in Chapter I. If the rains are good a splendid crop springs up.

Milk and butter.

272. A buffalo will give 6 to 10 mers of milk daily for eight months, and each cow will make a *chittak* of *ghi*; a cow will yield 3 to 5 seers daily for five or six months, but each one will only produce half a *chittak* of *ghi*. The first milk after calving is offered to *Bhainsa* and the Snake-god, or sometimes given to the beast herself to drink; otherwise the milk will turn bloody. The calf has all the milk for 10 days; on the 11th it has a rope put round its neck, and the owner begins to use the milk. The milk is boiled at night in a vessel called *karkhani*, and a little sour milk (*dahi*) put in to turn it, which is called *jamsan*. Next morning the milk is turned into a *ghushi* or churn, and the churn mud (*repi*, now made of fair wood with four arms at the bottom) is

put in, and a cover (*shakra*) put on through which the *gri* passes. A string (*seta*) is wound round the staff, and it is spun alternately each way by pulling the ends of the string. This churns (*chleau*) the milk. The butter is skimmed off and put into a vessel. Its collective name is *lindi* or *maini*, and the butter-milk is called *lassi*, and is drunk. The butter is then melted, and the water with its impurities (*oklach*) being strained off, *ghi* remains. This is put into a vessel called *bara* till enough is collected to take to the *basia*, or as they express it, to change the *bara*. The word is probably from *Bar*, Saturday, as no *ghi* must be made from the Sunday's milk.

273. The following remarks on the number of cattle, and the profits derived from cattle-rearing and the leasing of pasture lands are extracted from the assessment reports of Indri and Kuthal:—

"The figures relating to cattle, other than plough oxen, in Indri include male and female buffaloes, bulls and cows, and calves of all sorts. The young male buffaloes are bought up by merchants from the Punjab. No cowman in these parts would work his well with a buffalo. In the Kuthal the number of cattle shown is 26,349, or about one head for every acre of waste. But while the cattle are numerous, they are small and of little value, for the grass in the Kuthal is very poor. In the Bangar also we have one head of cattle to every acre of waste, and the grazing is of better quality than in the Jamna valley. In the Nardak, according to our lists, there are only 19,778 head of cattle to 37,542 acres of waste. I suspect this may be an understatement. But the area recorded as cultivable waste, includes a good deal of land which might well have gone down as barren. The Indri Nardak is not a grazing tract to anything like the same extent as the Karnal Nardak with its Rajput population and huge area of waste. The Rera, who own about half the villages, are good cultivators, and rarely keep up much pasture land. But the Rappers in the south, and the Jats in the east of the circle, depend a good deal on the profits of grazing, and there are one or two estates owned by strangers which are kept as grass preserves. Successive grass famines, to which the tract is terribly liable, have lessened greatly the number of cattle in the Nardak. In the drought of 1891-3, 922 milch buffaloes and 1,732 cows died in this circle alone, and the loss in the whole pargana was 2,828 buffaloes and 3,174 cows. On the most moderate computation, their value cannot have been less than Rs. 2,00,000, and if we put the total losses, including plough cattle, at three and a half lakhs of rupees, I do not think we would be guilty of exaggeration. That is more than twice the land revenue of the pargana. And the people must expect to suffer at least as severely once in every eight or nine years.

"The number of horned cattle in Kuthal¹ excluding plough bullocks is 1,40,632. These figures include draught oxen, cows, buffaloes, and calves of all sorts. Of the total 45,814 are milch cows, and 92,745 milch buffaloes. The circle details confirm in a

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Live-stock.

Milk and butter.

Cattle in Indri and Kuthal.

(1) The figures refer to the old Kuthal taluk as it was constituted before 1895.

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LIVESTOCK.

Cattle in the
Bangar and Nardak.

striking way the truth of the opinion expressed in a former report that the number of cattle depends far more on the number of mouths requiring milk than on the amount of pasture land. There is little grazing left in the Poonah, and none in the Jangal,* yet the former circle has 10 head of cattle for every 16 persons, and the latter 16 for every 12. In the two grazing circles the proportion is 10 to 12 and 10 to 17, respectively. The Nardak pasture is better than the Bangar, and there is twice as much of it; but the Bangar having the larger population has the most cattle. It is usually assumed that the spread of cultivation has been accompanied by a decrease in the number of kine, and it is true that the estimates seem to be the case. But I have the results of the enumeration made at last settlement in the Bangar and Nardak, and it is worth while to put it beside the present figures:—

CIRCLE.	Detail.	Cows.	Buffaloes.
Bangar " "	Former	12,359	10,004
	Present	16,752	12,165
Nardak " " "	Former	11,313	4,913
	Present	12,012	11,135

*I have assumed that the former figures excluded calves, whereas the increase since last settlement would be considerable. Of course I do not pretend that either of the two sets of figures is minutely accurate, and probably mine are more correct than Captain Larkins'. But with these statistics before us we may well hesitate to believe that cattle have decreased. The crops grown yield a great deal of fodder, and, as I shall show presently, the want of grass has led the people to cultivate jowar more largely. In the circles where cattle are kept for milk and little gao is sold, there are many more cows than buffaloes. But in the Nardak, Bangar, and Naik, the number of buffaloes does not fall very far short of the number of cows. Fine buffaloes are kept, and the Bangar is especially good at rearing them.

274. "A milch buffalo is worth Rs. 50 or 60. It gives milk for 8 months in the year, beginning in June or July. Much of the milk is reserved for gao, especially if the calf is a male. We may say generally that 7 cers of gao, worth Rs. 3-8-0, is handed over to the owner monthly for 8 months in the year, while the owner keeps the buttermilk for the use of his family. In the four rainy months the buffalo eats only grass and the price obtained for the gao is pure profit. But in the cold weather Rs. 2 monthly must be deducted for the cost of cotton seed and oil-cake. The owner of a good buffalo, therefore, realises a profit of Rs. 20 yearly by the sale of gao. The cows and bullocks reared in Naikhal are not to be compared with those bred in Hissar or the Jangal country. The cows are

(2) This circle has been transferred to Hissar.

Chapter IV. B

Live-stock.

Profile of a little
rearing.

worth Rs. 12 or 15 each and yield on the average 3 sera of milk daily for seven months in the year. A male calf is allowed a good deal of milk, but female calves are stinted, and this partly accounts for the pooriness of the breed. The profits from the sale of ghi made from cow's milk may be put at Rs. 6 yearly. As a rule the ghi made during the week is handed over to the family every Thursday, and on that day *no ghi* is made, and the owner's family can have fresh instead of sour milk. Male buffalo calves are brought up by Panjabi merchants at the age of 3 or 4 years, and are worth from Rs. 6 to 10 each. Banjaras from across the Jamuna come every spring to buy the bull calves. They take them from 18 months to 3 years old, and the price varies from Rs. 4 to 12 or even more according to age and quality. The trade in hides and horns, of which Dehli is the centre, has become important during the past twenty years. In Kaithal it is in the hands of the butchers. The price fluctuates a good deal, falling very low in a famine year, but it may be put at Rs. 6 or 7 for a buffalo hide, Rs. 2 or 3 for a cow hide, 5 to 12 annas for a goat skin, and 3 or 4 annas for a sheep's skin. The *Chamars* still get the skins of all animals, dying natural deaths, but of course the increased value of hides has raised the price of the live-stock. Cow's horns are not sold. Buffalo's horns are worth about an anna a pair. In the Bangur and Nardak villages there are numerous flocks of sheep and goats belonging mostly to the butchers of Kaithal, Pindri, Panipat, Jind, and Sirsā. Land-owners of all castes, who are too poor to keep cows and buffaloes of their own, tend them. The herdsman is allowed the whole of the milk, and the increase of the flock is divided once a year. The butcher usually buys the carcase's share and many of the sheep find their way into the Ambala Cantonment.

The following table, for the details of which I am largely indebted to the Rev. Mr. Carleton, who has been much in Kaithal during the last 30 years, is interesting:—

DETAIL.	Price in 1856.	Price now.
Milk per rapen	10 sera.	16 sera.
Ghi	5 "	2 "
Milk buffaloes	Rs. 15 to 30.	Rs. 35 to 70.
" cows	Rs. 4 to 10.	Rs. 12 to 20.
Buffaloes broken to plough	Rs. 15 to 30.	Rs. 30 to 40.
Young male goats for food	Annas 4 to 4	Rs. 10 to Rs. 1-1.
Sheep for food	12 annas	Rs. 2.
Buffalo hides	1 Rs.	Rs. 4.
Cow hides	5 annas.	Rs. 2.
Goat skins	2 annas.	10 annas.

275. " Pasturage is sold in two ways. Either fixed charges per head of cattle are made or definite areas are let for lump sums. In the former case the usual rates are:—

Milk buffaloes	Annas 8
Cows	" 4
Wannet calves	" 2

In the Nardak it is still quite common to collect part of the revenue by a *bachh* on cattle; and when this is done the rate per head, excluding plough buffaloes and unwannet calves, is from two to four annas. The community also realizes an anna per head and

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Live-stock.

Profits derived from
breeding pasturage.

sometimes more for all sheep and goats grazed in village lands. The Superintendent has collected statistics for five Bhangar and eight Nardak villages where he has ascertained with an approach to accuracy the lump rents realized for pasturage over areas extending 100 acres. The result is to show a grazing rent of about six annas an acre to be usual. We may assume that pasturage let in this way is above the average. I am inclined to take the rental value of ordinary grazing land in the Nardak of Kalthal as about four annas an acre and, as a good deal of bad land has been cleared as *dhalla*, perhaps we should put it lower for assessment purposes.

Diseases of cattle.

276. The chief diseases to which cattle are subject are as follows:—

Garor or *gura*.—This is the most fatal of all, especially to buffaloes. The mouth and nose run; the tongue and throat swell, the papilla of the tongue stand erect, and animal dies in a few hours, apparently suffocated. *Bora* or *paire*.—The feet and mouth swell and fester, and colic and diarrhoea are present. The animal generally recovers. *Mund* is dysentery, which generally kills the patient. *Jac*.—In the rains when the grass is young the cattle get giddy and fall down, especially buffaloes. It is seldom fatal. The rest of the canal tract gives the cattle glandular affections and diarrhoea, and pulls them down: they are therefore sent after a year or two to the highlands to recruit, which they do in a few months. *Bora* is used also for any epidemic cattle plague. If an animal got hung, an oval mark with a cross in it, or Solomon's seal, or Shy's trident, or the old Aryan mark of the yug-dhwaj, in general shape like the Manx arm, is branded on the hump affected. A *mala* or piece of the coloured thread used in religious ceremonies is a powerful charm if tied round the leg of the animal. All cattle that die on Saturday or Sunday are buried instead of being given to the *Chamars*.

Sheep and goats.

277. Considerable flocks (*sewar*) of sheep and goats are kept in the Nardak and in such Khadir villages as have large pastures. Where the villagers are Musalmans, the flocks sometimes belong to them: but they are more commonly the property of the city butchers, who send them out to graze in the villages. The sheep are all of the ordinary black small-tailed breed. They are generally tended by *ghadaris* who make blankets of the wool. A blanket is presented yearly to the village as a proprietary fee and is appropriated by the landholders. The dung is used for manuring tobacco, but is not much valued, and never bought.

Other animals.

278. Pigs (*had*) are kept in large quantities by the sweepers in the villages, and the *Khatiks* in the town. The Karnal breed of pigs, which is a very fine one, dates from the time of the old sultans; and large droves of "very superior and strictly homo-bred pigs" may be seen constantly going from Karnal, where they have already attained a considerable age.

and acquired the local tastes of their race. Donkeys are kept solely by pattern, and do all the petty village carriage. There are many of them in every village. The sweepers of almost every village keep lowis in some quantities.

279. The Karnal remount rearing depot was established in January 1889. The number of young stock at present in the depot is 653, but in addition to the horses there are also 120 ordnance mules which are being trained for mountain battery work. Such of the young stock as are likely to prove good for breeding are put aside for that purpose. About one-third of the Karnal farm lands recently purchased by Government is devoted to the rearing depot, the remaining two-thirds are at present under the charge of the Commissioner Department and used as a grass farm.

280. On the abolition of the Government Hono Stud in 1876, some of the buildings and lands were made over to General Parrott, the Superintendent. Some of the mares were sold to him, Government stallions were placed under his charge, and he set on foot an exceedingly promising experiment in horse-breeding. In fact matters had passed beyond the stage of experiment, when he recently sold his stud to Government, and at present it is being worked in connection with the depot very much on the lines which General Parrott pursued with so much success.

Chapter IV, C.

Occupations,
Industries and
Commerce.

(Horse studs.
The Karnal re-
mount rearing de-
pot and cattle farm.

The Karnal stud.

SECTION C.—OCCUPATIONS, INDUSTRIES AND
COMMERCE.

281. Table No. XXIII shows the principal occupations followed by males of over 15 years of age as returned at the Census of 1881. But the figures are perhaps the least satisfactory of all the Census statistics, for reason explained in the Census Report; and they must be taken subject to limitations which are

Occupations of the
people.

Population.	Total.	Villages.
Agricultural	18,411	614,800
Non agricultural	9,112	229,112
Total	27,523	843,912

given in some detail in Part II, Chapter VIII of the same Report. The figures in Table No. XXIII refer only to the population of 15 years of age and over. The figures in the margin show the distribution of the whole population into agricultural and non-agricultural, calculated on the assumption that the number of women and children dependent upon each male of over 15 years of age is the same, whatever his occupation. These figures, however, include as agricultural only such part of the population as are agriculturists pure and simple, and exclude not only the considerable number who combine agriculture with other occupations, but also the much larger number who depend in great measure for their livelihood upon the yield of agricul-

(1) These figures refer to the district as constituted in 1881.

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Occupations,
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Commerce.

Occupations of the
people.

tural operations. More detailed figures for the occupations of both males and females will be found at pages 69 to 78 of Table No. XIII A, and in Table No. XIIB of the Census Report of 1881.

A full account of agricultural occupations has been given in Chapter III, Section E.

Principal industries
and manufactures.

282. Table No. XXIV gives statistics of the manufactures of the district as they stood in 1881-82. The annual return of large industries for the Karnal district for the last five years has been blank. The only manufactures presented in the villages are weaving in cotton and wool, rope-making, making pottery and bricks, and minor handicrafts, such as the making of buckets and mits. They are all conducted either by the people themselves or by the menials; the latter either providing the finished articles as part of their *begar*, or being paid for their work, almost always in grain. The products are always of the roughest description, and for better finish the people have to go to the towns. Spinning and weaving are described fully by Mr. Baden-Powell, and an account of rope-making, pottery, and brick-making is given in paras. 497-501 of Mr. Ibbetson's Settlement Report.

Town manufactures.

283. In the city of Karnal several handicrafts are carried to great perfection, being relics of the days of the old cantonments. Especially it is famous for its shoe-making, many thousands of boots being sent from it to regiments all over the country. The city of Panipat is famous for the manufacture of copper and brass vessels and of skin jars (*tupa*) for holding ghi and oil, and exports them in considerable numbers. There is also a glass foundry, (1) the operations at which are fully described by Mr. Baden-Powell at page 237f of his *Punjab Manufactures*.

Mr. Lockwood Kipling, Principal of the Ishere School of Art, has kindly furnished the following note on some of the special industries of the district:—

"Panipat in this district has long been noted for small wares in metal of various kinds. A peculiar kind of bead-like ornament, known as *mada* or *pawla*, skillfully made in thin silver is one of the specialties of the place. A necklace of six rows costs about Rs. 30, of three rows about Rs. 10. There is no chasing or ornament of any kind, but the silver is a good colour and the beads are perfectly round. Captain Roberts reported in 1882 that this small industry is declining. Metal-nut cutters (*nutta*) are here made in fanciful forms, the handles being of brass with quaint projections, in which small mirrors and pieces of coloured glass are fixed. A good one costs two or three rupees. Soukors are similarly ornamented; the handles being made of brass with bits of coloured glass rudely simulating

(1) Glass is, or was, also made at Gurchala in Pichwa, and a small village adjoining Gurchala is called Khari Khichgarwa.

jewels set therein. A pair of scissors costs about 6 annas. These articles are made for export.

"The fabrics produced in the District are of no special interest. The Internal Trade Report for 1881-82 says that blankets of the ordinary native description are largely exported to other districts; and that the *Kaithal chunghri*, a cotton-cloth with its borders, red or blue, is exported towards Patiala and the Panjab.

"Karnal itself has long had a name for glass blowing. The silvered globes of thin glass, which, when broken up, are used for mirror-worked walls and also sewn into *phalturis*, are invariably said to come from Karnal. In the descriptive catalogue of the Panjab contributions to the Calcutta Exhibition 1883-84 Mr. Baden-Powell writes:—'In Karnal rude globes are made for ornaments, the inside being silvered with quicksilver and tin-foil; the large aperture necessary for the manipulation is awkwardly covered with oxidine. The Karnal glass-makers also prepare the large, thin, pear-shaped glass rotors or carboys, in which the native manufacture of salammonea (*sambadur*) is effected. It would be interesting to know whether this slender manufacture is a survival of more important works carried on in either Hindu or Moghul times. There has never apparently been any lack of small phials for attar of roses and similar articles blown at one operation; but few examples of more substantial forms survive.'"

234. There are no statistics available for the general trade of the district. The exports and imports of food-grains have already been noticed in para. 233. There is no material available such as would render it possible to give anything like a complete view of the trade of the district. But a slight sketch of its general course will be interesting; and as a foundation for it, an abstract of the customs returns for the trade passing east and west through the Panipat District in 1882-83 may be attempted. At that time that trade north and south went chiefly old Hansi-Hissar, and not through Karnal, excepting salt, which passed up from Jhajjar through Karnal to the Panjab in great quantities:—

Trade passing into the Doab.

Goods.	Mauza.	Customs dues in rupees.
		Rs.
Oil seeds	62,614	4,704
Cotton	39,520	10,320
Salt	45,107	90,057
Salammonea	2,283	1,027
Iron	4,768	3,400
Timber	—	5,800
Wool	541	4-1
Miscellaneous	—	3,064
		1,22,281

Chapter IV. C.

Occupations,
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Commerce.

Town Manufactures.

Course and nature
of trade.

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Occupations,
Industries and
Commerce.Crops and nature of
trade.

Trade coming from the Doab.

Goods.	Quantity.	Estimated value in rupees.
Sugar	2,75,017	87,000
Gur	2,42,548	24,544
Cloth	107,800 pcs.	31,800
Leather	...	1,500
Wool	2,318	2,318
Miscellaneous	...	3,500
		1,24,722

Ghi is not mentioned, and probably did not pay duty.

The course of trade thus indicated has been entirely changed by the construction of the railway and Grand Trunk Road, the mass of the external traffic now passing down these two arteries, the former being used for long distances, while the latter is still preferred for short ones. The only really important traffic east and west is that which flows in the great sugar mart of Shamli in the Munaffarnagar district, the carts generally taking salt there from Bhiwani, or *baṛa*, *moth*, *oilseeds*, and *ghi* from the highlands, and bringing away *gur*. The Khadir and canal portions of the tract produce a surplus of wheat, cotton, gram, and fine rice for export, and import salt, *baṛa*, oil, and oilseeds, iron, and piece-goods. The Nardak exports *ghi*, hides, wool, and in a good year large quantities of grain; and imports the same things as the rest of the district, with the addition of sugar. Formerly large quantities of gram, *moth*, &c., from the *Jangal* country of Kaithal, Patiala, and Ferozepore passed through Kaithal. The *Zamindars* of the *Jangal* do as their own carriers, and brought the grain on camels to Karnal, Shamli, and Saharanpur, taking back *gur* and fine rice. The Ferozepore grain trade was diverted by the Sindh, Punjab, and Delhi (now N. W. State) Railway, and the trade of the rest of the *Jangal* do is now being drawn to the Ferozepore Rowari Railway. When there is a surplus of grain in Kaithal, a good deal of it finds its way to Delhi through Panipat. *Jowar*, *sirnua*, *til*, and *maṅg* are also exported. The *jowar* is largely bought for seed by the canal villages on both sides of the Jamna. There is little export of *baṛa*, which is the favourite food of the Kaithal peasant. There is a large export of *ghi* to Delhi and Amritsar, but the trade is said to be less important than formerly, partly because the local consumption has become much greater. The trade in cattle, hides, and horns has been noticed in para. 274. The Powadh villages deal with Patiala and Satiana.

The trade of the district will be greatly affected by the opening of the Delhi-Kalka Railway and the excavation of the Sirsa canal. The local trade is principally conducted through the village *baris* who deal with the larger traders at the three marts of Kaithal, Karnal, and Panipat, the last of which towns lies on the direct road to Shamli. But it is surprising how

very considerable a trade is locally conducted by the villagers themselves, and especially by Jats from Rohtak. These people, in the hot weather, when the bullocks would otherwise be idle, start with their carts, bring salt from Bhiwani or *hajra* and *salt* from Hansi and Bissar, exchange it for *gur* or cotton in the villages, take this up into the highlands and exchange it for grain, and finally sell the grain at Karnal or Panipat, either buying sugar to take back, or carrying piece-goods, &c., for hire. The Delhi traders often send up agents for cotton or *ghi* in the villages, and bring it direct to Delhi. This local traffic is of immense advantage to the people, as they deal direct with the carters instead of with the local *bania*, and always get a better price than he would give. When the people of the tract themselves engage in similar operations, of course the profit is still greater. But this is not often the case, as in irrigated tracts the bullocks are seldom at leisure.

Such *gur* as is not absorbed in this manner goes to Shamli, the cotton and wheat to Delhi and Ambala, and the *ghi* and hides to Delhi. Oil and oil-seeds come from the Panjab and the Dech; *til* and *sirsa* from the former, *arhar* and *tara* mils from the latter. Pindar comes from Ambala, iron and piece-goods from Delhi, salt from Bhiwani, Delhi, or Ambala. The petty articles needed by the people and not produced in the villages are supplied by small hawkers, who buy them in the cities and travel about the villages, exchanging them for grain. Gangs of travelling blacksmiths, too, are not uncommon, who do finer work than the village blacksmith can attain to.

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Cotton and nature of trade.

SECTION D—PRICES, WEIGHTS AND MEASURES, AND COMMUNICATIONS.

285. The village prices of the chief agricultural staples used for the conversion of produce estimates into money at Mr. Tibbets's Settlement of 1880 are shown below. They are based upon the average prices of the 20 years ending with 1874, prices of certain staples being excluded in the calculations of the Nardak averages for those years in which these staples

Prices, wages, rent, interest.

(1) In the cold weather these nomad *lokhs* wander about in the districts of the Delhi division. They live in curious little carts. They camp outside the villages, as they are bound by the custom of the *grins* never to enter a house. They state that they are descendants of the Rajput Rajputs who left Chitor after its capture by Akbar (c. 1567). These *lokhs* are divided into seven *ghos* (clans), some of which at least bear high sounding names (*Balandi*, *Shahi*, &c.).

They do not practice *Intercast*. Possibly the prohibition against entering houses is connected with their claims to be descended from the Rajas of Chitor. Udaiapur was founded by Raja Udai Singh when he fled from Chitor. "So long as Chitor was a walled city, the Raja bound himself and his successors never to twist their hands, or eat from gold or silver, or sleep upon anything but straw. To this day the memory of the interdiction is preserved in the palace at Udaiapur. The Raja never twists his hand. He eats from gold and silver, but there are leaves beneath the dishes. He sleeps upon a bed, but there is a scattering of straw below." (Fergusson's *History of India*, p. 107.) 1341

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cations.

Prices, wages, rent,
rates, interest.

were not produced because of drought. A column has been added to show the prices assumed by Mr. Davis for Indri and Kaithal at the Settlement of 1888. He did not make any estimate for *rabli* crops, such as cane and cotton. Table No. XXVI gives the retail *bazar* prices of commodities for the last twenty-nine years. The wages of labour are shown in Table No. XXVII, but the figures are probably of doubtful value:—

Staple.	Sardak.	Karnal Khadir.	Karnal Bangar.	Panipat Khadir.	Panipat Bangar.	Indri and Kaithal.
Cotton	15	12	12	11	12	...
Ger	...	16	14	18	18	...
Majra	43	30	37	35	...	33
Raw rice	41	35	34	35	34	30
Coarse rice	47	15	11	...	...	39
Jowar	42	35	36	35	35	30
Bajra	33	29	29	29	29	31
Moth	39	42	34	34	34	24
Wheat	32	31	30	29	29	27
Gram	40	38	30	35	37	35
Barley	...	43	44	...	43	39
Wheat and gram	44	37	37	35	33	32
Barley and gram	60	42	43	...	40	30
Maori	...	40	...	...	...	32

The figures of Table No. XXXII give the average values of

Period.	Sale.	Mortgage.
1860-69 to 1873-74 ..	14-78	18-12
1874-75 to 1877-78 ..	21-6	25-1
1878-79 to 1881-82 ..	31-2	30-1

land in rupees per acre shown in the margin, for sale and mortgage; but the quality of land varies so enormously and the value returned is so often fictitious, that but little reliance

can be placed upon the figures. The subject has been noticed as regards Indri and Kaithal in para. 192.

286. Mr. Ibbetson thus discusses the history of prices in Karnal:—

"The prices of agricultural produce which ruled in the villages between 1830 and 1874 have been obtained from the *basas* books in the manner already described, and are summarized in the following table, which shows average prices in *sars* per *ropas* in the Panipat *taba*!—

Changes in the value
of agricultural pro-
duce.

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Changes in the value of agricultural produce.

Period.	Cotton.	Gau.	Mulsh.	Khob.	Jowar.	Wheat.	Gram.	Barley.
1830 to 1834	16	21	67	52	68	43	23	16
1835 to 1839	18	18	43	42	42	34	43	43
1840 to 1844	18	21	42	32	38	31	30	42
1845 to 1849	18	20	43	35	39	33	29	44
1850 to 1854	21	24	32	37	65	41	50	44
1855 to 1859	16	21	35	43	50	40	35	32
1860 to 1864	10	16	31	33	32	24	34	40
1865 to 1869	9	14	27	27	29	23	27	37
1870 to 1874	11	14	31	31	32	23	31	37

Ruling Prices in Karnal Bazar in annas per seer.

Year.	Cotton.	Mulsh.	First rice.	Common rice.	Jowar.	Bajra.	Mulsh.	Wheat.	Gram.	Barley.
1832	22	69	51	65	60	45	39	58	70	65
1838	18	48	43	65	56	30	50	38	70	70
1839	16	68	53	75	62	40	71	48	74	50
1834	...	...	...	...	...	...	...	42	71	60
1839	...	...	...	...	...	...	...	...	33	...
1839	...	...	...	...	...	...	...	...	...	...
1841	20	30	37	49	50	28	38	34	...	...
1842	11	41	46	56	43	38	38	40	48	63
1843	6	50	42	44	33	35	34	26	42	60
1844	...	...	...	49	...	...	...	28	...	...
1845	11	40	30	...	30	36	36	38	40	37
1846	...	...	...	34	...	...	...	23	...	...
1847	14	34	34	30	27	31	35	25	32	...
1848	...	...	...	...	...	...	...	...	...	...
1849	...	...	...	...	...	...	...	...	...	...
1850	10	30	33	52	42	30	29	29	...	34
1851	...	...	...	40	...	...	...	25	...	26
1852	...	...	...	...	32	31	31	24	35	40
1853	10	30	34	40	32	27	33	24	35	26
1854	11	29	33	40	30	27	33	24	35	26
1855	11	32	34	40	32	28	32	20	35	32
Average	13	43	41	48	42	35	34	32	40	52

NOTE.—The years for which the price of any staple is not shown are the years in which that staple was not produced in the Bazar, owing to drought.

"Special circumstances have combined to render the rise in prices, which has been so general all over India, somewhat less marked in this district than elsewhere. The large frontier cantonment which was kept up for so many years at Karnal created a local demand which its transfer to Ambala did not much diminish, and the populous city of Delhi is so near that the unloading of the Grand Trunk Road, always a good one, which was done about 1842, did not affect prices so much as new communications would do in an isolated tract. The same thing may be said of the great mart

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*Change in the value
of agricultural pro-
ducts.*

of Simla, to which the present road existed before last Settlement, though doubtless it is better now than then. Another cause which tended to keep prices up was the immediate proximity of the arid tracts of Hariana and the Bagar, the normal state of which appears to be scanty rain relieved by frequent draughts; the influence of this cause is often noted in the early correspondence, but the extended use of canal water in these tracts has lately tended to equalise the local supply with the demand.

"The prices tell their own tale. The first five-yearly period is marked by the famine of 1833; the second by the drought of 1837-48. In the third, during which the Settlement was made, the rain-fall was somewhat scanty throughout; but the prices may probably be taken as the normal rates of the time, as they tally with those of the preceding period, and for the next five years remain almost unaltered, although the seasons were favourable. The supplies needed by the army operating in the Punjab between 1845 and 1847 were largely drawn from this neighbourhood. The fifth period, from 1850 to 1855, is marked by a sudden and extensive fall in all prices, which continued to 1858; and this must, I fancy, have been owing to the opening out of the Punjab, and to its surplus stuffs pouring into a market from which no railway existed to carry them away. The famine of 1859-60 only introduced the cotton famine, which began in 1861 and continued for five years, during which time it is estimated that £63,000,000 sterling of silver was poured into Bombay. This enormous addition to the circulation of the country drove up prices with a rush, and, before equilibrium had been restored, the introduction of steam carriages from Delhi threw open the markets of the world to India, and perpetuated the high level which had been reached.

"The famine of 1860 created a temporary disturbance, but for the last five years the seasons have been fair, the opening of the Punjab railway in 1870 has completed the connection between Lahore and Bombay, and prices have stood with an extraordinary steadiness at what may be considered their normal rates. Since then the drought of 1877-80 has again raised prices considerably; but the rise is probably only temporary. Taking the periods from 1840 to 1845 and from 1870 to 1875 as giving normal rates for last settlement and for the present time, which I think we may fairly do, we find the rise in prices to be as follows:—

	Wheat	Grain	Barley	Peas	Beans	Cotton	Opium	Gin
Settlement rates	100	120	100	100	100	100	100	100
Present rates	136	140	121	130	100	165	125	131

And the general result may be said to be that prices have risen by about one quarter.

In discussing the same subject in connection with the Settlement of Indri and Kaithal, Mr. Doole wrote as follows:—

"The history of prices and the causes of their fluctuations since Settlement have been so often described that I need not say much on the subject. The main features are the same in Karnal as elsewhere, though the changes have been less violent. We have a period of comparatively high prices coming to have an end about 1850, a considerable fall between 1851 and 1860, a great rise coincident with the famine of 1860-61, and a more permanent fall by the rapid expansion of the trade of the province. Since 1860-61 prices have been fairly level, except in years of actual famine such as 1869 and 1878. Since the famine of 1877-78 they have ruled exceptionally high. No anticipation of a permanent increase can be based on this fact, which is due solely to the occurrence of a series of bad seasons. One or two good harvests have at once brought prices down, and those ruling lately were actually lower than the average prices prevailing in the five years 1860-64, when food grains were still very cheap.

"But, while the prominent features of the history of prices have been the same here as in the rest of the Panjab, there are very marked differences to be noted. Between 1840 and 1860 prices were decidedly higher in Karnal than in the Panjab proper, as a comparison of my statistics with those collected by Mr. Parcer and Captain Montgomery for the Jalandhar and Rohtaswar districts will show. * * * Moreover, the fall in prices after 1860 was much less marked in Karnal than in districts lying further to the north-west. The average Karnal prices are still higher than those prevailing in the Jalandhar Doab, but the difference now is insignificant compared with what it was formerly. The reasons of the comparatively high range of prices in Karnal before 1860 have been given by Mr. Tibbets.

"As I have noticed already, prices have, for special reasons, been abnormally high since the famine of 1877-78, and I consider we shall obtain a better idea of what they are likely to be in future by taking as the basis of our estimate the average prices of the 20 years 1860-79, than those of the twenty-five years 1850-84.

"The degree in which we should follow the averages strictly depends upon the question how far we should include in our calculations the prices of famine years. * * *

"I consider, that in calculating the prices of the unirrigated staples, especially gram, coarse rice, and *jowar*, grown in the drier tracts, which occupy the greater part of my charge, we would be justified in excluding the figures for *harif* 1860 and *rabi* 1861 (famine of 1860-61) *harif* 1868 and 1869, *rabi* 1869 and 1870 (famine of 1868-70), and *harif* 1877 and *rabi* 1878 (famine of 1877-78). As regards crops which are partly grown on irrigated land and only cultivated to any great extent as dry crops in the more favourably situated circles, e.g., wheat, the average prices of the whole period of 20 years should be taken, but, in deciding on the prices to be assumed, a liberal allowance should be made for the frequency of famine years.

"The following table shows (a) the average prices received by agriculturists for the principal grains in the twenty years 1860-79.

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duce.

- (b) The same excluding the prices ruling in the harvests mentioned in the last paragraph.
- (c) The prices I propose to adopt for assessment purposes.

GRAIN.	AVERAGE PRICES.		Prices as- sumed for assessment purposes.
	Of 50 years 1800-1870.	Of 1800- 1870, ex- cluding 4 famine years.	
Wheat	25½	26½	27
Barley	27½	40½	30
Grain	22½	31½	33
Wheat and grain ...	29	35½	32
Barley and grain ...	28½	40	32
Maize	50½	52½	52
Eleusine	20½	21½	21
Maize	20½	24	23
Jowar	21½	33½	23
Bajra	20	31½	21
Zari	20½	21½	20
Coarse rice	26	30½	29
Teela	20½	21½	21
Grā	21½	22	22
Mung	28½	27½	26
Moth	27	28½	24

For wheat and barley, *jaunsari*, and *mandari*, which are not included in my tables, I assume 35, 3½, and 48 annas per rupee respectively. *Mandari* is a very inferior grain, and in a good year its price sometimes falls as low as two annas the rupee. * * *

"It only remains to compare the prices now assumed with those adopted at last Settlement. The result is shown in the annexed table. Mr Wynard adopted separate estimates for *purghana*, *Ladwa* and *Thanasar*. The prices shown are the mean of the two, except in the case of coarse rice. Here I have adopted the *Ladwa* price, the *Thanasar* figures being so low as to suggest the occurrence of some mistake":—

GRAIN.	Wheat.	Barley.	Grain.	Eleusine.	Maize.	Jowar.	Bajra.	Teela.	Coarse rice.
Last Settlement	27	45	40	27	42	22	43	25	22
Present Settlement	27	30	25	21	23	23	21	21	20

Weights and mea-
sures.

237. The weights and measures of the district are divided into *kachka* and *pakka*; the latter being the standard measures in which Government returns and records are prepared, the former the measures used by the people in their daily life. Close to the towns the villagers often use *pakka* weights and measures; towards the Rohtak border they always use *pakka*

weights and *kachcha* measures; in the rest of the tract both are always *kachcha*. But prices are always quoted in *pukka* weights. Thus when a villager says his field produces three maunds a *bigha*, and grain is 30 sers per rupee, the maund and *bigha* are *kachcha*, the sers *pukka*.

The weights used are as follows, the *pukka* weight being always double the *kachcha* weight of the same name:—

I.—					
5 tolas	=	1 chittak <i>pukka</i> .			
20 "	=	4 " "	=	1 <i>maund pukka</i> .	
30 "	=	15 " "	=	4 " "	= 1 <i>ser pukka</i> .
2,200 "	=	640 " "	=	160 " "	= 80 " "
II.—					
4 <i>maund kachcha</i>	=	1 <i>ser kachcha</i>			
160 " "	=	40 " "	=	1 <i>maund kachcha</i> (1) = (41.13 lbs.)	
III.—					
5 <i>sera pukka</i>	=	15 <i>sera kachcha</i>	=	1 <i>dhari</i> .	
10 " "	=	20 " "	=	2 " "	= 1 <i>dhon</i> .
60 " "	=	120 " "	=	12 " "	= 6 " "
					= <i>pan</i> = (127.33 lbs.)

This last is the real village measure, the weights in it alone not varying from *kachcha* to *pukka*. Besides these there are *gahra* or as much as can be carried under the arm; and *dhari* or as much as can be carried on the head.

The measures of length are as follows, the *kachcha* yard being three quarters the length of the *pukka*, and being always used by the people:—

I.—					
3 <i>Angli</i>	=	1 <i>gira</i>			
4 " "	=	1 <i>mothi</i>			
12 " "	=	4 " "	=	3 " "	= 1 <i>balisht</i> or <i>bilaud</i> .
24 " "	=	8 " "	=	6 " "	= 2 " "
36 " "	=	12 " "	=	9 " "	= 3 " "
48 " "	=	16 " "	=	12 " "	= 4 " "
II.—					
2 <i>Kadama</i>	=	1 <i>gatha kachcha</i> .			
22 " "	=	10 " "	=	1 <i>faris kachcha</i> = (31.75 yards).	
III.—					
3 <i>Gaz pukka</i>	=	1 <i>gatha pukka</i> .			
60 " "	=	30 " "	=	1 <i>faris pukka</i> = (55 yards).	

The *angli* is the finger breadth; the *mothi*, the closed fist; the *balisht* the span; *hath*, the cubit, or from the elbow to the finger tips, the *kadama*, the double pace.

The measures of area are as follows, each *kachcha* measure being one-third of the corresponding *pukka* measure; and the people using *kachcha* measures generally:—

<i>Pakka</i> —				
20 sq. <i>gathas</i>	=	1 <i>hewa</i> .		
480 " "	=	1 sq. <i>faris</i>	=	20 " "
<i>Kachcha</i> —				
1 sq. <i>gathas</i>	=	1 <i>hewa</i>		
100 " "	=	1 sq. <i>faris</i>	=	30 " "

The *hewa* whether *kachcha* or *pukka*, is of course further sub-divided into *hiwansi*, *tiwansi*, *kachwansi*, &c., each being one-twentieth of the preceding one, but the people do not talk

(1) In India the *kachcha* maund is 16 or 17 Government sers, and the *dhari* and *dhon* are both less than 5 and 10 *pukka* sers respectively.

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as a rule even of *bighas*, but of *pan bighah*, ($\frac{1}{4}$ *bighah*), *adh bighah* ($\frac{1}{2}$ *bighah*), &c. The scales given above are those now used, but the real difference between the *pukka* and *kachcha bighah* is that the former is based upon the *gatha* and the latter on the *kadam* as its unit; each consisting primarily of a square with 20 units as its side.

Up till 1826, in which year the Government introduced the *pukka bighah* of 3,023 square yards, the local *bighah* in Panipat and pargana Karnal was the present *kachcha bighah* of 1,008 square yards, which is approximately one-fifth of an acre. The proper *kachcha bighah* of Indri is one-fourth of a *pukka bighah* and $\frac{1}{4}$ of an acre. But a *kachcha bighah* equal to $\frac{1}{4}$ of an acre was adopted as the standard of land measurement at the recent settlement.

There are no real measures of capacity current in the tract, grain and liquids being sold by weight. The *maap*, used to measure grain, generally holds either a maund or a maund-and-a-quarter; but this is only approximate, and the contents of any particular measure are always weighed to ascertain the total weight. A pinch of anything is called *chugti*; a closed handful, *muthi*; and the contents of the two hands put open side by side, *angli*.

Communications.

288. The figures in the margin show the communications of

Communications.	Miles.
Navigable rivers	74
Railways	66
Metalled road	45
Unmetalled road	600

the district as returned in Table No. I of the Administration Report for 1889-90. The figures do not include the roads in the Pehawa tract recently transferred to Kaithal. Table No. XLVI

shows the distances from place to place as authoritatively fixed for the purposes of calculating travelling allowance. Table No. XIX shows the area taken up by Government for communications in the District.

Navigable rivers and
canals; ferries and
bridges.

289. The Jamna river is navigable for country craft throughout its course within the district; but is little used for the purpose. The new main line of the Canal, new Dohi Branch, and new Hansi Branch, have been designed for navigation for boats 90 feet in length and 16 feet beam, and depth of water 8 to 6 feet, headway 11 feet. The mooring places and ferries on the Jamna and the distances between them are shown below, following the downward course of the river:—

River.	Stations.	Distances in miles.	Remarks.
JAMNA...	Chauganwa	...	Ferry and mooring place.
	Kalaana	5	Do. do.
	Dabkauli	5	Do. do.
	Baga	4	Do. do.
	Mirgahat	10	Boat bridges.
	Sanauli	13	Do.
	Kharajpur	11	Ferry and mooring place.

The following table is a list of canal bridges on the new and old canals and their branches with distances in miles calculated from Budarpur near the Pipli and Indri border.

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List of Canal bridges.

No.	Name of bridge.	Distance from Budarpur in miles.	No.	Name of bridge.	Distance from Budarpur in miles.	No.	Name of bridge.	Distance from Budarpur in miles.
1	Indri Regulator	0	14	Dhodpur Bridge	41	8	Patoul	27
2	Ghoseph	11	15	Thindhar Ferry	42	9	Southa	31
3	Quart	13	16	Mudrasa Syphon	63	10	Indwar	34
4	Kampha	15	17	Lock at Hanaat Head	38	11	Pari	40
5	Daraz	17	18	Bala Bridge	40	12	Chauras	45
6	Wekas	19	19	War Majra Lock and Fall	42	13	Hanaat Branch	48
7	Karnal	22	20	Hoglan Bridge	43	14	Bar Bridge	51
8	Kahtul	23	21	Dhodpur Bridge on old Hanaat canal	44	15	Thomas Gooli Bridge	53
9	Ghosepur	26	22	Patoula Branch	44	16	Sierra Bridge	55
10	Barnas	28	23	Hafans Head	54	17	Moolasda Bridge	56
11	Jail	30	24	Bridge No. 30	54	18	Joshi Bridge	58
12	Qasba	34	25	Bridge No. 50	55	19	Robat Branch	60
13	Munak Bifurcation	36	26	Bridge No. 130	55	20	Sarab Bridge	62
			27	Do. No. 120	57	21	Adilwan Bridge	64
			28	Old Canal	57	22	Atapur	67
1	Indri Branch Regulator	58	29	Indri suspension bridge	58	23	Karnas	70
2	Bar Bridge	59	30	Dudhla Khora Bridge	59			
3	Bar Escape Head	61	31	Karnal Cantonment	59			
4	Hoboli Bridge	63	32	Do. Ch.	59			
5	Siwana Ferry	63	33	Gharonda	59			
6	Kalri Bridge	65	34	Pharab	61			
7	Parapal & Alapur Head Bridge	66	35	Harpur	61			
8	Do. & Jandul	66	36	Res	62			
9	Shilpat Lock Bridge and Fall	67						
10	Salrasa Ferry	68		Bridge on Old Dehli Canal	68			
11	Murtari Bridge	68	37	Baholi	68			
12	Ropshan Bridge	67	38	Khadraon	68			
13	Naritas do.	69						

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cations.

Roads, rest-houses,
and encamping-
grounds.

290. The New Delhi-Kalka Railway passes through the heart of the district and will be opened in the beginning of 1891. It has six stations in the district, Simbhalta, Panipat, Gharaunda, Karnal, Timori, and Amin. The Grand Trunk Road passes through Karnal connecting it with Delhi on the one side and Ambala on the other, and is the only metalled road in the district.

The unmetalled roads, so far as they lie in the canal tract, are generally bad, and when they get into the zone of swamps due to the canal, all but impassable, a single cart having but little chance of getting on alone till others come up and the cartle can be doubled. But the Khadir roads, though often heavy with sand, are otherwise good; and those in the high lands are generally admiabie. Communications with Rohtak, Hisar, and Kaithal are good; but the flooded belt bordering on the Sarani and Ghagur completely cuts off the Patiala highlands for all wheeled conveyances; and, though a road has been made beyond Kaithal towards Patiala, it requires much further expenditure to develop its usefulness.

The village roads are in the canal-irrigated parts unspeakably bad. They are exceedingly narrow; and the banks which protect the cultivation being dug from the soil of the road, they become veritable sloughs in the rains; while in the canal tract the frequency of standing water, the want of bridges, and the slipperiness of the salt-impregnated soil when damped by a shower, makes the road always difficult and often almost impassable, and carriage throughout the tract infinitely laborious.

The following table shows the principal roads of the district, together with the halting places on them and the conveniences for travellers to be found at each:—

Route.	Halting places.	Distance in miles.	REMARKS.
GRAND TRUNK ROAD, METALLED.	Simbhalta ...	—	Encamping ground, Sarai, Police Rest-house, and Road Bungalow.
	Pkospur ...	10	Encamping ground, Sarai, Police and District Rest-house, and Road Bungalow.
	Gharaunda ...	10	Encamping ground, Sarai, Police Rest-house, and Road Bungalow.
	Karnal ...	10	Encamping ground, Sarai, Dak Bungalow, Road Bungalow and Canal Bungalow.
	Batana ...	13	Encamping ground, Sarai, Police Rest-house, and P. W. D. Bungalow.
KARNAL AND KATHAL, UNMETALLED.	Nimug ...	14	Sarai, Combined District and Police Rest-house.
	Pandri ...	11	Sarai, Combined District and Police Rest-house.
	Kaithal ...	10	This is a double road for light and heavy traffic. It passes through a dry tract and is an excellent road except after heavy rain.

Roads	Halting places	Distance in miles	Remarks
PONDICHERY TO KARNAUL, DISTRICT, PONDICHERY.	Rajmudi	15	Police rest-house.
	Amudi	8	Nil.
	Kharan	22	Canal Chokki.
	Paupat	1	Exercising Ground, Bani, District and Police rest-house, Road bungalow. A double road for light and heavy traffic.
KARNAL TO WEIR, PONDICHERY, DISTRICT, PONDICHERY.	Nil	10	Police rest-house.
	Nil	6	This road runs towards the Ghaggar river and Patala. The part which goes through the Sarani valley is impassable in the rains.
KARNAL TO WEIR, PONDICHERY, DISTRICT, PONDICHERY.	Nil	8	Canal bungalow 1 mile from road.
	Nil	8	Canal bungalow between Bani and Res.
	Res	1	
	Nil	1	Nil.
PONDICHERY TO KARNAUL, DISTRICT, PONDICHERY.	Nil	14	Canal Chokki.
	Nil	5	Nil.
PONDICHERY TO KARNAUL, DISTRICT, PONDICHERY.	Nil	17	
	Nil	13	Canal Chokki.
PONDICHERY TO KARNAUL, DISTRICT, PONDICHERY.	Nil		District Bungalow.
	Nil		A very bad road. Beyond the Chantung and Rakshi drainages, &c.
PONDICHERY TO KARNAUL, DISTRICT, PONDICHERY.	Nil		Exercising house ground, Bani, P. W. D. Bungalow. A bad road.

(1) This road works off from the Grand Trunk Road 2 miles from Karnal and is utilised for a short distance.

Chapter IV. D.

Prices, Weights
and Measures,
and Communi-
cations.Roads, post-houses,
and telegraphing-
grounds.

Route.	Halting places.	Distance in miles.	Remarks.
RAJAHMUNDRY TO MADRAS.	Pondri ...	12	Seems, combined district and Police Rest-house.
MADRAS TO MADRAS.	Pondri ...	12	Idem.
MADRAS TO MADRAS.	Muzak ...	12	Police Rest-house at Muzak; Canal Bridge, low at Muzak.
MADRAS TO MADRAS.	Muzak ...	8	Police Rest-house.

There are also unmetalled roads from—(a) Kaithal to Pehowa, (b) Kaithal towards Thanesar, (c) Kaithal towards Jindh, and Kaithal towards Saharanpur. A road connects Pehowa and Thanesar, but owing to the flooded state of the country near the former town it is usually in very bad order.

Other unmetalled roads are :—

	Miles within district.
Karnal towards Asanah	20
Do. " Manas	6
Do. " Patanpore	21
Faridkot " Samah	10
Do. " Bahadur	18
Do. " Nisang	26
Indri " Changanwa	12

On these there are no fixed halting places.

There is a good unmetalled inspection road available for light wheel traffic along the left bank of the new main line, now Hanni Branch and new Dabli Branch, and a fair road along the old canal and its branches below the Badshahi Bridge on the Grand Trunk Road. But the Canal Department do not allow these roads to be used by the public. There are inspection bungalows on the old and new canals, with furniture only; they are situated at Indri 15 miles from Karnal, at Phurak 12 miles, and at Ror 24 miles below Karnal, also at Isaura, Lohari, and Jogh; at Rajahm on the new main line, 9 miles from Karnal. Karnal itself on the new main line, Jani 7 miles from Karnal on the new main line, and Muzak 15 miles from Karnal at the bifurcation.

The Karnal *Dak* Bungalow is completely furnished and provided with servants. The district and Police rest-houses have furniture, crockery, and cooking utensils, but no servants. The canal *chaudis* and road bungalows have furniture only.

There are Post Offices with Savings Bank and Money Order Offices at—1 Karnal; 2 Panipat; 3 Ghazipur; 4 Simhalka; 5 Alapur; 6 Asanoli; 7 Nisaur; 8 Pandri; 9 Bahana; 10 Gahla; 11 Kunjpura; 12 Indri; 13 Kailhal; and village post offices at—1 Tiraori; 2 Barsat; and 3 Naultha.

Chapter V, D.

Prices, Weights and Measures, and Communications.

Post offices.

CHAPTER V.

ADMINISTRATION AND
FINANCE.

SECTION A.—GENERAL ADMINISTRATION.

Chap. V, A.

General
Administration
Executive and Judicial.

291. The Karnal district is under the control of the Commissioner of Delhi. The ordinary head-quarters staff of the district consists of a Deputy Commissioner and 3 Extra Assistant Commissioners. Each *tahsil* is in charge of a *Tahsildar* assisted

Tahsil.	Karnal.	Patnauli and wastlands.
Karnal ..	1	10
Patnauli ..	3	30
Kaithal ..	4	15

by a Naib. Since the Kaithal *tahsil* has been enlarged by the transfer to it of 89 Pehowa villages, an additional Naib *Tahsildar* on Rs. 75 per mensem has been stationed at Gahla. The village revenue staff is shown in the margin.

There is one *Munsiff* in the district, who has jurisdiction within the Karnal and Patnauli *tahsils*, and also in *pargana* Azamdi of the Kaithal *tahsil*. He sits alternately for 2 months at Karnal and 2 months at Patnauli. The statistics of civil and revenue litigation are given in Table No. XXXIX.

The executive staff of the district is assisted by Bhai Jasmer Singh of Arpanli, Bhai Anokh Singh of Siddhawal, Mir Riaz Hussain, of Kaithal, and Shamsheer Ali Khan Mundel, of Karnal. The first has the powers of a Magistrate of the 1st class, the second and third 2nd, and the last 3rd class powers. The first two exercise magisterial powers within the limits of their respective *jagirs* and the last two in the towns of Kaithal and Karnal.

The Police force is controlled by a District Superintendent.

Units of Police.	Total strength.	Deployment force.	
		Thammas and constab.	Patrolmen and dismounted.
Thammas (mounted) ..	420	83	402
Patrolmen ..	153	..	153

The strength of the force as given in Table No. 1 of the police Report for 1880 is shown in the margin. In addition to this force 30 *darfidars* and 1,093

village watchmen (see Chapter III) are entertained and paid by the villagers half-yearly at each harvest time.

The *thammas* or principal police jurisdictions and the *chaklis* or Police posts on the Trunk Road, are distributed as follows:—

Tahsil KAESAL.—*Thanas*—Karnal Sadr, Karnal city, Nimg, Gharuinda, Butana, and Indri. *Road posts*—Samana, Butana, Tikana, Shaugarh, Uchana, Miran Ghat, Pul Badshahi, Jhil, Gharuinda, Kohand, and Badauli.

Tahsil PANIPAT.—*Thanas*—Panipat, Alupur, and Simbhalica. *Road posts*—Panipat, Seva, Machhranli, Simbhalica, and Patti Kalisra.

Tahsil KATIAL.—*Thanas*—Katial, Gahla, Rajauri, Asanli, Pandri, and Pehowa.

There is a cattle-pound at each *thana* and one at Kunjpura, the former under the control of the police and the latter under the *Tahsilidar* of Karnal. There are also pounds at Singaha, Her, Phurlak, Naultha, Khukrasa, Pabri, Larana, Joshi, Mowana, Goli, Sink, and Kurana, under the management of the Canal Department. The district lies within the Ambala Police Circle, under the control of the Deputy Inspector-General of Police at Ambala.

The district gaol at head-quarters consists of some old gun-sheds, to which barracks and work-sheds have been added. It contains accommodation for 262 prisoners. Table No. XI. gives statistics of criminal trials, Table No. XLI of police enquiries, and Table No. XLII of convicts in gaol.

202. The Bilochis and Tagus are proclaimed under the Criminal Tribes Act having been brought under the Act in 1876 and 1881 respectively. In 1889, 274 Tagus and 199 Bilochis were on the register. The number of Bilochis on the register has been

Tribes.	Men.
Tagus	274
Bilochis	199

more than doubled by the transfer of 80 Pehowa villages to Ambala, as a good many Bilochis live in the Pehowa Nadi. Tagus are very troublesome. 236 members of the tribe had succeeded in evading registration up to the end of 1889. During the year, 29 were convicted under the provisions of the Criminal Tribes Act, and six for theft and house trespass. During 1889 few Bilochis were convicted within the district, but Karnal Bilochis were brought to trial in Delhi, Mulerkotla, Patiala, and even as far off as Darbhanga.

Cattle-stealing may be said to be the normal crime of this district, the Nardak wilds affording much facility for its successful accomplishment. Thefts of this nature are performed in a very systematic manner, the animals being rapidly transferred to great distances, and to other districts through the medium of accomplices. Cattle-lifting, however, is become less prevalent than it was. Formerly the greater families or even headmen of villages would occasionally denur to give a daughter in marriage to a man who had not proved his capability to support

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Criminal Tribes, and
criminals.

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General
Administration.

Revenue, Taxation,
and Registration.

a family by cattle theft; and before British rule cattle raids on the most extensive scale were by no means uncommon throughout the Kathana and Asandh *parganas* of the district.

293. The gross revenue collections of the district for the last 22 years, so far as they are made by the Financial Commissioner, are shown in the Table No. XXVIII, while Tables Nos. XXIX, XXXV, XXXIV and XXXIII give further details for Land Revenue, Excise, License Tax, and Stamp, respectively. Table No. XXXIIIA shows the number and situation of Registration offices. The central distillery for the manufacture of country liquor is situated at Karnal. Table No. XXXVI gives the income and expenditure from district funds, which are controlled by a District Board and 8 local boards, one for each *tahsil*, constituted under Act XX of 1883. The District Board consists of 37 members, 25 of whom are elected, 9 nominated, while 3 have seats in virtue of the offices which they hold. The three local boards have in all 58 members, 45 of whom are elected, 9 nominated, and five have seats *ex-officio*.

Table No. XLV gives statistics for Municipal Taxation while the Municipalities themselves are noticed in Chapter VI. The income and expenditure of provincial properties managed by the District Board in 1889-90 is given below:—

Detail.	Income	Fixed Con- tribution paid by Gov- ernment in- cluded in column 2.	Expenditure	Fixed Con- tribution paid to Gov- ernment in- cluded in column 4.
	Rs.	Rs.	Rs.	Rs.
Ferries ..	12,378	..	10,815	11,000
Cattle Pounds ..	2,408	..	1,199	200
Dak Bungalows ..	114	184	1,248	..
Natal Properties ..	60	..	119	119
Total ..	15,494	184	13,749	11,319

The ferries and bungalows have already been noticed in paras. 289-290 and the cattle-pounds in para. 291. The natal properties in the Karnal district consist of 17 old buildings, 12 gardens and 15 pieces of waste land and sites of old forts, &c. Among the old buildings there are 1 *sarai* at Karnal, 2 gateways which remain of the old Imperial *sarai* at Gharaunda said to have been built in the time of Shahjahan, and one palace fort at Kaithal. The *sarai* at Karnal was built by a banker named Bhara Mal in the time of the Emperor Akbar. The old palace fort at Kaithal belonged to the Bhara of Kaithal, and became Government property when Kaithal fell to the British on the failure of the ruling line. Figures for other Government estates are given in Table No. XXVII, and they and their proceeds are noticed in the succeeding section of this Chapter, in which the land revenue administration of the district is treated of.

294. Table No. XXIX gives figures for the principal items and the totals of land revenue collections since 1868-69. The remaining items for 1887-88 and 1888-89 are shown in

Source of revenue.	1887-88.	1888-89.
	Rs.	Rs.
Surplus against <i>satohana</i> ..	475	224
Revenues fines and forfeitures ..	811	844
Fees ..	1,678	2,190
Selling houses of miscellaneous land TODARNA ..	..	81

the margin. Table No. XXX shows the amount of assigned land revenue; while Table No. XIV gives the areas upon which the present land revenue of the district is assessed. The statistics given in the following tables throw some light upon the working of the Settlement:—Table No. XXXI—Balances, remissions, and *labari* advances. Table No. XXXII—Sales and mortgages of land. Tables, Nos. XXXIII and XXXIII A—Registration.

295. Table No. XXXVII gives figures for the Government and aided, middle and primary schools of the district. There are middle schools, for boys, at Karnal, Panipat, Kaithal, Kunjpura, and Pandri; while primary schools are situated at Amin, Barsa, Baisai, Barsai, Faridpur, Jundla, Ghir, Gharanda, Indri, Shergarh Tapu, Goudar, Manak, Nisang, Ganjogurhi, Chaura, Hambla, Bala, Baragnon, Tiraori, Kachhwa, Ghogripur, Samson, Kunjpura, Karnal, Kaseran Branch, Manan Bhanja Branch, Sadu Branch, Sarai Branch, Dhanura, Barsai Girls' School, in the Karnal *tehsil*; at Simbhalan, Jaurasi, Patti Kalin, Siwah, Babali, Manasa, Naultha, Israna, Batwala, Maudi, Pasina, Urfana Kalan, Kawi, Kurua, Panipat, Rajputan Branch, Anwar Branch, in the Panipat *tehsil*; and at Futehpur, Chika, Hibri, Siwan, Asandh, Arnanh, Pharol, Bhagal, Keorak, Gukha, Bala, Pai, Kaithal, Pandri, Pohowa, Surza, Kadi, Gumbhala Garha, Kaithal Urdu Girls' School, Kaithal Nagri Girls' School, Pandri Girls' School, in the Kaithal *tehsil*. The district lies within the Ambala circle, which forms the charge of the Inspector of Schools at Delhi.

Table No. XIII gives statistics of education collected at the Census of 1881; and the general state of education has already been described at page 85. Among indigenous schools the Arabic school at Panipat is worthy of notice. It is supported by the voluntary contributions of the more wealthy Musalmans, and some 30 to 40 boys attend, chiefly sons of the middle class Muhammdans of the town. Ladies of the Delhi Zarnana Mission are located at Karnal, and visit women in the city and teach them and their children.

The Karnal School, formerly called the District School, was established in 1860. Its management was handed over to the Municipal Board in 1886. The main School consists of Middle and Upper Primary departments and one class of the

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Statistics of land revenue.

Education.

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General
Administration.

Education.

Lower Primary department. Connected with the School there are four branch lower primary schools, all situated within Municipal limits, and a Boarding House, located at present in the old serai.

The staff consists of a head-master, a second master, a mathematical teacher and a Persian teacher in the middle department, two English and one Persian teacher in the upper primary, and five Persian teachers in the lower primary department and in the branch schools. One of the latter has also a Nagri teacher.

The following table shows the expenditure, number of pupils, and result of examinations for the past five years:—

YEARS.	Actual Expenditure	Average No. on roll.	Candidates for Middle School Examination	Passed the Middle School Examination	Candidates for the Upper Primary Examination	Passed the Upper Primary Examination	Candidates for the Lower Primary Examination	Passed the Lower Primary Examination
Rs.								
1892-93.	9,216	302	19	13	27	17	43	20
1893-94.	8,567	331	17	10	77	12	38	20
1894-95.	1,511	535	12	6	17	16	25	13
1895-96.	1,721	509	14	9	20	13	25	26
1896-97.	1,531	261	23	10	11	10	19	11

Medical.

296. Table No. XXXVIII gives separate figures for the last five years for each of the dispensaries of the district which are under the general control of the Civil Surgeon, and in the immediate charge of Hospital Assistants at Karnal, Panipat, Kaithal, Kunjpura, and Aamli.

The *State* dispensary of Karnal, which was founded in 1861, is situated at the north-west corner of the town, between it and the civil lines, and contains accommodation for 22 male and 12 female in-patients. Its staff consists of an Assistant Surgeon, a compounder, a dresser, two apprentices and manials.

Ecclesiastical.

297. There is a small church at Karnal capable of seating some 50 persons. No Chaplain is posted here, but one of the Missionaries at Delhi visits Karnal occasionally to hold a service at the station.

Head-quarters of
other departments.

298. The whole of the main line of the Western Jamna Canal from the head at Tajawala to Munak and the Hanni Branch, which extends to some distance below Hissar, are under the charge of the Executive Engineer, Karnal Division, stationed at Dadoper, in the Jagadhri *taluk* of Ambala. The new Delhi Branch, which runs from Munak to Delhi, is under the charge of the Executive Engineer, Delhi Division, stationed at Delhi, in which Division the old Rohtak Canal irrigation is also in-

joined. The head-quarters of the Executive Engineer in charge of the construction of the Sirsa Canal are at Karnal. The Western Jamna and Sirhind Canals are included in the Circle of the Superintending Engineer, Cis-Satluj Circle, whose head-quarters are at Ambala. The Grand Trunk Road in the Karnal District is under the Executive Engineer, Provincial Works Division, Ambala, who has charge of the public buildings of the district, while he is subordinate to the Superintending Engineer, 2nd Circle, at Ambala. The Military buildings (stables for the cattle and horse farms) are in charge of the Executive Engineer, Military Works, at Ambala, and the Superintending Engineer, Military Works, at Lahore. The Post Offices are controlled by the Superintendent of Post Offices at Delhi.

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SECTION B—LAND AND LAND REVENUE.

279. It may be imagined, from the manner in which the district was constituted, that its revenue history is exceedingly complicated. The primary division of the district is into two portions—that which came to us in 1803 and formed part of the old Panipat district, and that which came to us through cessions of the territories of Sikh chiefs brought under our protection in 1809, and was included in the old Thanesar district. The settlement of the former was revised by Mr. Ibbetson, in 1872-80, that of the latter has recently been revised by Mr. Dowie. Each of these main divisions may again be sub-divided. Of the Panipat district, the part assigned to the Mandala has a very different fiscal history from the *khates* portion; while of the Thanesar district, nearly the whole of the Kaithal *taluk* and a few villages in the Indri *Nardak* were settled separately from the rest of *pargana* Indri. Thus the present section will be divided into three portions, the first consisting of Kaithal and Indri, the second of the old Panipat district, and the third of general matters common to both.

Introductory.

PART I.—KAITHAL AND INDRI.

300. The Sikh revenue administration of the Kaithal tract is thus described by Captain Abbott:—

Sikh revenue system
in Kaithal.

"The revenue collection was nominally a *bahi* of one-third or one-fourth of the produce, with *tahti* or fixed rates of one rupee per *barkha* *bigha*. The one-third produce was taken generally, but one-fourth in some of the Bangar villages; but in addition to this numerous taxes made up the revenue. In the *parganas* where the *tahti* crop is unknown, and indeed in others where it prevailed unfavourably, an arbitrary assessment was fixed, which, in addition to the numerous taxes, was collected by the *zamindars* by a "*bachh*" upon cattle, polls, hearths, and ploughs in the Bangar, but on the three latter only in the *Khadir parganas*. It may be interesting and instructive to record the items that

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Land and Land Revenue

Sikh revenue system in Kuthali.

composed the revenue of a village for a *rich* instalment as demanded by the state, and which it must be remembered is exclusive of many items that swell the village account. For instance, the village of Haraula paid as follows:—

Mustaklak, or fixed demand for one crop	Rs. A. P.	Rs. A. P.
Percentage on din at Rs. 25 1/2	7 0 0	310 0 0
Grain	30 1 0	
Revenue in State	19 0 0	
Do. in Mustaklak	0 0 0	
None to fall the Bani	13 0 0	
Bricks to repair fort, &c.	18 12 0	
Kashikshikshik	1 0 0	
Mustaklak	3 0 0	
Wages rate fixed at Rs. 1	4 0 0	
Thamdar	11 0 0	
Wages or expenses of collections	7 0 0	
Amount in 1st parcel and Record Keeper	4 0 0	
		902 12 0
		602 12 0

"This is not given as a solitary instance, but as a type of the prevailing system. Each village furnished a certain number of *Chaukars* who, if not required, paid one rupee per head per year. The sum above entered in *faiz* was arbitrarily fixed, according to the season and past collections. When the *harai* prevailed, which was usual only when the crops prospered well, a poll tax of Rs. 2 per head was taken in addition, but a cattle tax had never been demanded by the State as is usually supposed. When the *Mustaklak* system was adopted, it included the poll tax. The powerful villages only paid so much revenue as they found convenient to do, those of Pal and Udhatar invariably resisted the taxes of the *Bhai*, which were either unable or unwilling to make an impression upon them."

Summary Settlements

301. Kuthali was occupied in April 1843 and in the November following Major (afterwards Sir Henry) Lawrence had completed a summary settlement for three years. His interesting report is printed in the "Extraneous from Reports on the Settlement of the personae formerly comprised in the *Thanesar* District." He got statements which he considered "tolerably correct" of the Sikh collections from 1723 to 1837. He says that he made this ten years' average the basis of his assessment; but in fact he did not follow his figures at all closely, but trusted a good deal apparently to his personal inspection of villages. The revenues he fixed were in most cases a good deal heavier than those paid before the recent revision, though the *harai* was in a very undeveloped condition. No doubt the assessment, like all the summary settlements made in the injured Sikh states on this side of the Sutlej, was too severe. At the expiry of three years it was continued for another year by Captain Abbott, the chief of

(1)—Apparently a mistake for 2 1/2.

(2)—i. e. 100000.

some villages, which objected to renew their leases on the old terms, being considered and a few reductions granted.

302. Lawrence believed that the taluk would develop rapidly, and somewhat rashly prophesied that when his three years' settlement was over an enhancement of 60 per cent. would be realisable. As a matter of fact progress was slow. The seasons were unfavourable both as regards health and crops; and men's minds were disturbed by the fear that Kaithal would be handed back to Mhai Ude Singh's widow, or to his nearest collateral relative, the Bhai of Arnaik. When Captain Abbott made his Regular Settlement in 1947, he did not enhance the total demand to any great extent, but he altered the distribution a good deal, relieving the estates he considered weak. He failed to see that Lawrence's revenue was far too high. Captain Abbott assessed few of the Pownall villages. The demand he fixed was collected for eight or nine years without the arrival of very heavy balances; but his record and assessment were both considered so bad that the settlement was not reported to Government for sanction, and finally Captain Larkins was ordered to do the work over again.

303. His operations lasted from 1853 to 1856. He divided the villages, with the exceptions of one estate settled by Mr. Wynyard, into 21 circles, some of which do not now belong to the whole. It would be fruitless to detail the assessment rates, which were pretty numerous and founded on more minute distinctions than settlement officers of the present day think it worth while to make. But the following table, which excludes the Pohowa estates recently transferred to Kaithal, shows with approximate accuracy the average rates used by Captain Larkins in assessing the chief classes of land in the 21 circles included in the assessment circles of the revised settlement :-

Chapter V. II.

Land and Land
Rental

Captain Abbott's
Regular Belt on
1917

Captain Lockhart
Regiment of Foot
1801

[illegible]

Chapter V. B.
Land and Land
Revenue.

Captain Larkins'
Regular Settlement,
1863.

Of the 80 Pehowa villages added to Kaithal in 1839, 81 are included in the Naili Pehowa and Bangar Pehowa circles, the remaining eight formed part of the Southern Chaudhri Circle of Pipli, and were settled by Mr. Wynyard, as they had been included in the Thanesar State. Captain Larkins' average rates in Pehowa were approximately:—

Circles.	Naili.		Bangar.	
	Rs. A. P.		Rs. A. P.	
Naili Chahi	2	8 0	3	8 0
Bangar Chahi	1	14 0	1	11 0
Bangar Ahi	1	9 0	1	8 0
Bangar Bawal	1	1 0	1	0 0
Bangar "	1	1 0	0	15 0
Rate on cultivation of revenue as assessed...	1	5 5	1	1 9

The following table shows the revenue which he imposed on each Circle, and the revenue as it existed immediately before the recent revision:—

DETAIL.		Naili B.		Bangar.		Ahi.		Pipli.		Naili Kaithal.		Bangar Pehowa.		Bangar Ahi.		Total.
		Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	
Demand of Cap- tain Larkins' Settlement, 1863.	Revenue	10,795		11,444		12,812		21,220		42,403		31,200		11,700		1,78,000
	Rate on culti- vated area.	0-14-4		0-10-4		1-10-5		1-1-1		1-4-4		1-4-4		1-1-3		0-22-11
Demand as it stood before recent revision.	Revenue	10,501		12,701		11,481		22,511		42,101		31,111		11,411		1,75,200
	Rate on culti- vated area.	0-6-5		0-5-4		1-4-8		1-0-10		0-10-10		0-11-4		0-10-1		0-8-0

The figures for the Pehowa Naili and for the Pipli include the revenues of two small estates settled by Mr. Wynyard.

In some circles considerable sums of money were charged for old and new waste, and this explains the excess of the revenue actually taken over that brought out by the rates.

Captain Larkins reduced Captain Abbott's demand by about one-fifth. His settlement worked well. The Kaithal and Pehowa Bangar and the Naili rates were not too heavy considering the boundless room for expansion then existing. It must be remembered that large areas were recorded as *jailid*

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Land and Land Revenue

Captain Larkins' Regular Settlement, 1866.

Revenue history after Captain Larkins' Settlement.

Revised Settlement of 1882.

which under our present system would be assessed as cultivated. When allowance is made for this the Bangar dry rate did not exceed eight-and-a-half annas. The Andarwar dry rate was certainly heavy. There is nothing to justify the wide distinction made between the assumed value of unirrigated soil in the Andarwar and Bangar. But here, too, there was a good deal of land to be broken up. The Nailli assessment appears to have been severe, but it was far lower than that made by Captain Abbott. The Powadh was leniently treated. It is curious to find the hard *satish* of the Nailli (most of which was chased by Captain Larkins as *dakar baran*), which yields crops whose precariousness cannot be exaggerated, assessed at higher rates than the light productive loam of the Powadh. Neither Captain Abbott nor Captain Larkins grasped the fact, that, given a scanty rainfall and no irrigation, it is the lighter loams that are the best soils. Of course where all the land is hard, as in the Nardak, the position of the stiffest soils may make them the best, but that is due to the fact that rain water drains into them off the higher lands.

304. The changes in the demand between 1856 and the recent revision of settlement were unimportant. About Rs. 3,000 were added on account of the assessment of petty rent free grants, and some Rs. 2,000 taken off on account of reductions of assessment granted by Captain Elphinstone and Captain Davies, when they revised Thanagar Settlement.

Suspensions were granted in the famines of 1863-69 and 1877-78, in 1880-81, and probably in some other years. Since the revision of settlement began in 1882 the policy adopted has been to suspend freely in bad seasons in the Bangar, Nardak, and Nailli. In 1883-84, Rs. 38,774 were suspended; in 1884-85 Rs. 18,462, in 1885-86, Rs. 40,819, and in 1887-88 Rs. 15,479, making a total of Rs. 1,13,528¹. Of this large sum only Rs. 2,805 remained uncollected in December 1882. Government runs little risk in making large suspensions here, for it is the very tracts in which failure is most frequent and most complete that have the largest surplus in good years. The relief to the people is great, for they are saved from borrowing at a ruinous rate of interest. If this course has been good policy in the past, it will be absolutely necessary in the future, now that the demand in the Nardak and in the Kailhal and Pehowa Bangars has been greatly enhanced.

305. Before discussing the revenue history of the Indri pargana it will be convenient to finish that of the Kailhal tahsil by describing the result of the recent revision of settlement carried out by Mr. Douie. The Karnal-Ambala settlement embraced the Kailhal tahsil and Indri pargana of Karnal, and the Pipli and Jagadhri tahsils of Ambala. It lasted from May 1882

(1) These figures relate to the Kailhal tahsil as it was constituted before 1882.

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Land and Land
Revenue.

Revised Settlement
of 1888.

Assessment Circle.

Assessment of
Pawaddy Circle.

to April 1889. The 89 villages of the Pehowa *pargana* transferred to Kaithal at the close of Settlement were reported open in the Pipli Assessment Report.

The following account of the assessment of Kaithal is taken almost entirely from Mr. Domb's Settlement Report.

306. The *taluk* as now constituted includes seven assessment circles and a fragment of another circle, the bulk of which has been left with Pipli. The division into circles would have been somewhat modified, had Pehowa formed part of Kaithal when it was assessed. A short account of the assessment of each circle is given in the following paragraphs.

307. The Pawaddy includes most of the villages to the north of the Ghaggar. Out of 37 estates 27 are wholly, and 2 partly, in *jagir*. The total area is 59 square miles, of which 34 are cultivated. The grazing lands are worth very little. The rice cultivation and judd amounted to only one per cent. Population advanced by 30 per cent. between 1833 and 1868, and has since remained stationary. Three-fourths of the land is owned by Jats and Jat Sikhs, and most of the rest by Rajas and Geras. The cultivators are therefore of an excellent class, and their condition is generally satisfactory, though there is no superabundant prosperity. Transfers are rare, and the average price of the land sold is only Rs. 20 per acre, or 16 times the revenue. The average sowings for the four years 1883-84 to 1886-87 were 49 per cent., and the average on which crops were reaped 89 per cent., of the recorded cultivated area. These figures are low for a tract with so much irrigation and show that the dry cultivation is precarious, though less so than in any other circle. The *batai* rate is usually 121 and the few cash rents are very low, averaging Rs. 3-8-0 for irrigated, and Rs. 1-6-2 for unirrigated cultivation. The half assets share is 14 per cent., and the half assets estimate only amounted to Rs. 23,653.

The revenue, was Rs. 25,626, at Rs. 1-2-10 per acre of cultivation. The proposed rates, which were approved by Government, were—

Detail.	Acres.	Data.	Demand.
		Rs. A. P.	Rs.
Chahi	1,319	2 12 6	11,000
Ali and ali	11,187	1 0 6	11,167
Tithi, dahi, and salab	5,565	6 11 6	4,600
Total	17,700	1 4 11	26,767

(1) For the physical features of the different Circles see pages 7 to 9.

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The revenue actually imposed amounted to Rs. 28,510. The enhancement was Rs. 2,884 or 11 per cent. The incidence is Rs. 1-4-11 per acre on cultivation and Rs. 1-7-3 per acre of crops harvested in the 4 years 1883-84 to 1886-87, Rs. 13 per plough, and Rs. 10 or 11 per owner.

Assessment of
Andarwa Circle.

308. The small Andarwa circle is on the watershed between the Sarasti and Ghaggar, contains 16 villages, and covers an area of 8½ square miles; less than two-fifths of which are under tillage. Most of the uncultivated land is bad khar, and little expansion can be looked for. Of the cultivation, 46 per cent. is regarded as well-watered, but even in the driest year the annual irrigation falls far short of the measurement figures. Since the settlement of 1856 cultivation and yield have risen by 18½ per cent., but the advance is in the uncertain dry cultivation. There has been no increase in the number of wells. In 1855 the population was dense, and it has increased but little since. The land-owners are sturdy and hardworking Jats. Only three of the villages can be called very prosperous, four or five near the Ghaggar and Sarasti are in a declining state owing to the prevalence of disease, the rest are in ordinary circumstances. The soil is a strong loam and the dry crops are very precarious. But, thanks to the diligence with which the wells are worked, most estates can pull through a bad season or two without assistance. The grazing lands are very bad, but fodder crops are largely grown, and the people keep a large number of cattle.

The revenue amounted to Rs. 15,712 falling at Rs. 1-4-7 per acre of cultivation. It was very high judged by Karnal standards and much heavier than that paid in the Palawa Bangar and Indri Narfak. The half agents estimate was only Rs. 10,400. The rates proposed by Mr. Dogie and accepted by Government and the resulting demand were:—

Detail.	Area.	Rates.	Demand.
		Rs. A. P.	Rs.
Cult.	3,604	2 13 0	8,371
Other cultivated land	8,780	0 12 0	1,058
Total	12,384	1 5 2	14,121

This involved a trifling enhancement of 3 per cent. The revenue actually assessed was Rs. 16,380, being 1-5-7 per acre of cultivation and 1-12-5 per acre of crops harvested in four years, about Rs. 20 per plough, and Rs. 6 or 7 per owner.

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Land and Land
Revenue.Assessment of Nar-
dak Circle.

309. The Nardak circle contains 96 estates occupying an area of 384 square miles, of which rather more than one-third is now under cultivation. Only one per cent. of the cultivated land is irrigated from wells. Since the settlement of 1850 cultivation and new fallow had increased by 103 per cent., ploughs had about doubled, and population had risen by 45 per cent. About half of the soil is owned by Rajputs. The remaining half is chiefly in the hands of Rors, Jats, Brahmins, and Gujars, good cultivators, Jats and Rors, owning less than one-third of the whole. The tract is healthy and the people are strong of body and generally in fair circumstances. There is a good deal of debt, but this is often traceable to the expenditure of money in criminal cases, for cattle theft is still common. Transfers are rare, because land in these parts is a very bad form of security. Rents are very low, and the amount of the half assets share was taken as 9 per cent. for irrigated and 11 per cent. for unirrigated crops. The soil is strong and stiff, yielding excellent crops when the rainfall is copious, which it rarely is in the south of Kaithal. In a bad season the failure is complete. Taking an average of four years 75 per cent. of the recorded cultivated area was down, and crops were reaped off 50 per cent. The percentages of crop areas to cultivated area for four years were 24, 93, 74, and 43. The chief crops are millets, pulses, and rice. The people depend largely on their cattle, and some of the villages let grazing to outsiders.

The demand was Rs. 34,081 falling at annas $6\frac{1}{4}$ per acre of cultivation. This was easily paid in good years, but in bad years the people had to borrow both to feed themselves and to pay the revenue. The rates proposed and the resulting revenue were—

Detail.	Acres.	Rate.	Demand.
		Rs. A. P.	Rs.
Chahi and abdi	673	2 0 0	1,316
Duke and walia	17,413	0 7 2	7,906
Other cultivated land	62,304	0 4 0	24,921
Grazing land	142,671	0 1 4	12,133
Add owner's rate at 1st occupier's rate			5,744
Total	223,061	0 9 4 on cultivation	51,116

The half assets estimate amounted to Rs. 34,861 or adding Rs. 4,000 for the Government share of the *four straw* to Rs. 38,861 while the proposed assessment on cultivation was Rs. 38,994. Government decided that the owner's rate must be fixed at $\frac{1}{4}$ occupier's rate as in the rest of the district, and the grading rate raised to 1½ annas. The revenue assessed was Rs. 40,173 or adding Rs. 5,613 on account of owner's rate Rs. 34,560. The latter sum fell at 10 annas on the cultivated area, and 17 annas on the average area of crops harvested in four years.

310. The Kaithal Bāngar, which occupies the western half of the southern uplands has an area of 362 square miles, nearly two-thirds of which are under tillage. The well irrigation is of very trifling amount. The increase in cultivation and jaddi since 1856 was 73 per cent, and the rise in the number of ploughs 63 per cent. In some of the largest estates there is no waste left, and in most villages the plough has been driven quite as far as is desirable. Excluding the town of Kaithal the increase of population amounted to 33 per cent. The landowners are mostly Jats. They are as a rule in very fair circumstances, but their state cannot be described as one of abounding prosperity. There is a good deal of debt, but transfers are few and unimportant. The soil is lighter than in the Nardak, but except in the south-west of the circle may fairly be described as stiff. The crops grown are the same as in the Nardak, but the tillage is more careful. The fluctuations from year to year are extreme. The four years' average showed the area sown as 82 per cent, and the area off which crops were reaped as 65 per cent. of the cultivated area. The detail of crops harvested for the four years was 21, 23, 21, and 53 per cent. Though the grazing area has been much curtailed, the people manage to keep a large number of cattle. Rents, where they exist at all, are low, and the half assets share is the same as in the Nardak.

Assessment of Kaithal
Marginal Circle.

The demand was Rs. 43,268 falling on cultivation at annas 5½ per acre. The proposed rates and the resulting revenue were:—

Detail.	Acres.	Rate.	Demand.
		Rs. A. P.	Rs.
Chobbi	600	3 0 0	1,800
Other cultivated land	110,000	0 7 0	77,000
Grazing	82,394	0 0 0	0
Add owner's rate at one-third occupier's rate	...	...	3,100
Total	212,994	0 7 3 on cultivation	78,800

This gave an increase of 48½ per cent. The half assets estimate including Rs. 10,000 for the Government share of *four straw* was Rs. 72,988, and the proposed assessment on cultivation Rs. 71,020. The owner's rate was raised to half

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Assessment of Kaththal Bangar Circle.

occupier's rate, as in the Nardak, and the grazing rate 16 one anna per acre. The revenue actually assessed was Rs. 69,129, or including owner's rate Rs. 73,780. The latter sum fell on cultivation at 8½ annas and on the average area of crops harvested at about 13 annas.

The demand finally imposed on the Nardak and Bangar is a pretty stiff one in existing circumstances, and Government has recognized the fact that suspensions must be freely given in bad seasons. The circumstances of many of the estates in both these circles will soon be greatly altered by the completion of the Sirsa Canal.

Assessment of the Kaththal Nall Circle.

311. The Kaththal Nall consists of the villages flooded by the Ghagar and the Saran. It has an area of 218 square miles, of which 79 are cultivated, 87 come under the head of cultivable waste, and the rest is barren. There is room for expansion, but little can be looked for unless the flood water is better distributed, and disease, which is the curse of the whole tract, is checked. The rise in plough oxen was 19 per cent. and in cultivation and jadal 20 per cent. The increase in cultivation consisted to a great extent in the bringing again under the plough of land which had been for a time abandoned. Population had remained stationary. It is of a more mixed character than in the circles already described, but Jats predominate in the Ghagar, and Rajputs and Gajars in the Saran, village. The condition of the land-owners is unsatisfactory, and the Ghagar villages are in a very depressed state. The precociousness of the harvests cannot be exaggerated, but the prime evil from which the people suffer is disease. The average area of crops sown is 85 per cent. and of the crops harvested 63 per cent. of the cultivated area. The detail of crops harvested for four years is 29, 23, 70, and 69 per cent. Transfers are more numerous than in any other circle, but the total is not large, for there is little demand for land. Rents are low, and the Government's half assets share is 11 per cent.

The villages may be divided into two groups, some of the leading statistics of which are given in the following table:—

CIRCLE.	CULTIVATED AREA 1891-1900		POPULATION		PASTURES		WELLS		Per cent. of crops harvested in total cultivated area.	In 1900-01 the area with rain on cultivation, and average crop, compared with 1901-02.
	1891	1900	1891	1900	1891	1900	1891	1900		
47 Goughat Villages ..	Area, 11,720	12,170	9,000	9,175	220	300	140	190	51	14,000 1904 1,025 21,000 9,100 100
21 Saran Villages ..	32,997	24,100	24,200	27,700	7,100	9,800	244	370	68	1,000 21,000 9,100 100

Whatever improvement has occurred belongs to the second group. The Ghangar villages have declined. If the bed of the Parau Ghangar (para. 13) is cleared of silt yearly, and this should certainly be done, half of the Ghangar Naili villages may be raised out of their present wretched condition.

The demand was Rs. 46,601, rate minus 14-10 per acre cultivated. The half assets estimate was only Rs. 26,858. The proposed rates and revenue were:—

DETAIL	Acre	Rate.	Demand.
		Rs. A. P.	Rs.
Chab and oil	2,722	0 12 0	7,016
Salt	52,902	0 14 0	25,202
Other cultivation and jadd ..	25,028	0 9 0	11,527
Grazing	23,600	0 0 0	2,612
Total ..	1,00,102	0 13 0 on cultivation.	47,457

The area of *jadd* is large and was assessed in this circle as cultivated land. Government raised the grazing rate to 1½ anna. The demand assessed was Rs. 48,160, rate 15½ annas on cultivation and about Rs. 1-8 on average area of crops harvested.

Though the revenue of the whole circle was little altered, the internal distribution was much changed. In the Ghangar estates large reductions were granted, but these were more than counterbalanced by the increase taken in the Sarasti villages.

212. The Northern part of the Pehowa Naili is flooded by the Unia, and the Southern by the Sarasti. There are five Bangar estates resembling the villages in the Andarwar circle, which they adjoin. The Circle has an area of 125 square miles, of which 37 are cultivated. Cultivation and *jadd* showed an increase of 18 per cent., and ploughs of 16 per cent., while population had declined by 6 per cent. Jats predominate in the Unia Naili. Within the last ten years the floods of the united Markanda and Sarasti in the South of the Naili have increased in volume, and it is in this part of the circle that the spread of cultivation has mostly occurred. The 53 estates may conveniently be divided into three groups, some of the leading statistics of which are shown below:—

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Assessment of the
Karnal Salt Circle

Assessment of the
Pehowa Naili.

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Assessment of the Pehowa Naik.

Detail.	Cultures and area.			Population according to Census		No. of wells.	Percentage of rainfall to area cultivated.	Percentage of total area to Naik.	Jama and patta in cultivation.
	Area of 1947	Area of 1948	Area of 1949	1946	1947				
1 Bhagat village ..	1,000	1,000	1,000	1,000	1,000	25	..	57	1,000
24 Wells ..	11,250	11,250	11,250	11,250	11,250	113	80	61	11,250
25 Sarasti ..	7,125	7,125	7,125	7,125	7,125	43	74	72	7,125
Total	11,250	11,250	11,250	11,250	11,250	181	61	67	11,250

There are wide differences between the Ujala and the Sarasti villages. The former have decidedly a better agricultural population and have more well irrigation. In other respects they are inferior. Nearly the whole of their flooded land consists of dahr, in which coarse rice is the principal, and often the only, crop. The grazing is miserably poor.

In the Sarasti villages the autumn harvest is comparatively unimportant. Much land lies under water in the rains, and, as soon as it is dry enough, is hastily ploughed and sown with gram or mixtures of wheat or barley with gram. Nothing could be rougher than a great deal of the cultivation. But in Pehowa and a few of the neighbouring villages the stiff soil is being improved by deposits of silt. The Sarasti floods in Pehowa scarcely ever fail and the spring harvest is fairly secure, but the Ujala floods are most uncertain.

The demand was Rs. 21,221 falling at Re. 0-14-0 on cultivation. The half assets estimate was Rs. 14,259. The rates proposed by the Settlement Officer and sanctioned by Government and the resulting demand were:—

Detail.	Acres.	Rate.		Demand.
		Rs.	A. P.	
Chabli	1,907	2	0 0	3,814
Other cultivated land ..	21,673	0	13 0	28,175
Grazing	33,101	0	0 4	1,324
Total	61,681	0	14 4	31,064

The revenue given out was Rs. 21,510 falling at 14½ annas on cultivation and at Re. 1-7 on the average area of crops harvested in 4 years.

313. The Pehowa Bangar covers an area of 79½ square miles, of which 31 are cultivated.

Cultivation and jaidid land risen by 46 and population by 20 per cent. since the settlement of 1856. Jats and Rors own one-half of the total, and till two-thirds of the cultivated area. They are generally in good circumstances. The other tribes of any importance are Gujars and Rajputs, who depend a good deal on cattle rearing and are usually very careless cultivators. Tenants are not numerous and true rents are a novelty. The Government's share of the produce was 11 per cent., and the half assets estimate Rs. 12,510. A good deal of the new tillage is of a very uncertain character, the land being roughly ploughed in a favourable season, and left alone in a poor one.

The average area on which the crops were harvested in the 4 years 1883-84 to 1886-87 was 37 per cent. below the cultivated area of the circle. The detail is 43, 29, 70, and 35.

Owing to the increase of cultivation, the demand had become light and the circle had prospered, although the proprietors had been made to pay in good and bad years alike. The revenue was Rs. 11,413, above one-half of which was contributed by four large estates, two belonging to Rors and two to Jats. The rate on cultivation was 9½ annas per acre.

The sanctioned rates and the resulting demand were:—

Details.	Area.	Rate.	Demand.
	Acres.	Rs. A. P.	Rs.
Well irrigated	2,080	2 0 0	4,160
Dry	17,031	0 8 6	2,303
Grassland	25,267	0 0 6	842
Total	44,378	0 11 8	11,305

The revenue actually announced was Rs. 14,280, rate Rs. 0-11-7 on cultivation and about Rs. 1-2 on the average area of crops harvested.

314. Some of the Chachra estates transferred the close of the settlement to Kaithal were in a very broken condition. Between 1856 and 1881 the population of the eight villages had fallen off by 23 per cent., and between the two settlements many wells had fallen out of use. The crops are extremely precarious. The demand was lowered from Rs. 1,335 to Rs. 1,490.

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Revenue.
Assessment of Pehowa Bangar Circle.

Assessment of 8 estates included in Sonthern Chachra Circle

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Land and Land Revenue.

General result of
reassessment of
Indian Kaithal.

315. The general result of the reassessment of tahsil Kaithal was to raise the demand from Rs. 2,05,457 to Rs. 2,48,575 or by Rs. 43,118. In addition an owner's rate which, calculated on the average receipts from occupier's rate for 5 years, amounted to Rs. 13,273 was imposed for the first time. The new demand came into force in the Pehowa villages in Kharif 1887 and in the villages of the old Kaithal tahsil in Kharif 1888. The term of the settlement has not yet been finally determined, but it will not exceed 20 years.

Optional fluctuating
assessment in
case of many Nali
estates.

316. One peculiar feature of the assessment must be noticed. During settlement operations a number of estates in the Kaithal, and one village in the Pehowa, Nali, besides two Chachra estates were put under a fluctuating system of assessment owing to the extreme precariousness of the crops and the distressed condition of the landowners. There was much to be said in favour of perpetuating and extending such a system. But in view of the objections of the people and the difficulty of securing proper supervision, it was decided not to refuse a fixed assessment to any estate, leaving it, but to give most Nali and all the Southern Chachra villages the option of accepting at once or at any time during the currency of the settlement an assessment fluctuating with the area of crops harvested. Full details will be found in the settlement report. As was anticipated all estates elected for a fixed demand, but some of them may be glad to exchange this for a fluctuating assessment in the future, and they should be given every opportunity of doing so.

Sikh Revenue system
in Indri.

317. Indri was not like Kaithal the appanage of a single State, but was divided between Ludhwa, Thanessar, Radaur, Kaithal, and a number of petty chiefs. Here as rule the Sikhs took a share of the total produce, $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$, by appraisement for most crops, for others, such as poppies, tobacco, cane, cotton, and ahari, cash *bigah* rates were charged. Deductions from the total produce were first allowed for the dues of the village menials. Even where the rate was moderate, the demand might be excessive, owing to a dishonest estimate of the outturn. This was the case in the Khadir villages of the Thanessar State. The rate there was only one-fourth, but the appraisement was very severe. In addition, numerous cesses were levied. Captain Abbott gives a formidable list of these, but it is too long to quote. He estimated the total to amount to a charge of 16½ per cent. on the revenue demand.

Captain Larkins calculated that, in Thanessar, where one-fourth was the share of produce taken by the State, little more than half the outturn remained in the hands of the proprietors, after all the cesses had been paid. But this appears to be an exaggeration, as his own figures show that the State only realized from 20 to 33 per cent. in addition to the receipts from appraisement and cash rates. What may have struck to the finger, of the servants of the State is another matter.

Every Sikh took as much as he could, but the smaller men could not squeeze the people so effectively as the more powerful chiefs. The Loden Raja was strong enough to exact 4 annas per maund, or 10 per cent, in addition to the share by appraisement, on the ground that he must be insured against loss from errors in weighing, wastage, &c. The leading men in each village were given an allowance of 3, 5, or 10 per cent. on the revenue collections; the highest rate being given to the strongest villages. And influential landholders were often allowed to hold a well rent-free, or given the receipt by appraisement of 5 or 6 *bighas* of land. This has softened the recollection of the worst evils of the Sikh system, and with all its irregular exactions, it apparently pressed less heavily on the people than our early cash assessments, exacted rigidly without regard to the fluctuations of the seasons. The leading zamindars were treated with a greater show of liberality than under our rule. They were fed at the chief's expense when they went to his head-quarters, and presents were often given on the occurrence of marriages in their families. Hence the landholders sometimes speak in a tone of regret of the old system, but any attempt to revert to grain collections or appraisement would be resisted to the death.

The Sikhs dealt as they pleased with the village waste. Grass and game preserves were formed, and new villages were located in lands carved out of the waste of the older estates. More than one-fourth of the villages of the *pargana* were founded in this way during Sikh times. There was one check on the exactions of the conquerors. If the villagers were pressed too far, they abandoned their lands, and the revenue disappeared with them.

318. Estates which lapsed to us were summarily reassessed. The principal *excheants* which occurred before the first regular settlement and which affected villages included in Indri, are shown below:—

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Sikh Revenue system in Indri.

Summary Settlement.

Name of State.	Date of lapse.	Number of Villages included in present Indri <i>pargana</i> .
Bolpur	1836	6
Thanesar, (Bhag Singh's two-fifths share)	1822	17
Kaulhat	1845	104
Lodna	1844	20
Thanesar, (Bhanga Singh's three-fifths share).	1820	224

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Revenue.

Summary Settle-
ments.

All the villages of the pargana with the exception of the seven* estates transferred from Muzaffarnagar, were brought under regular settlement by Mr. Wynyard or Captain Larkins between 1849 and 1856.

Many of these estates had been previously settled in a summary way by various officers. The principal summary settlements were made by Captain Murray, Captain Abbott, and Captain Larkins. The first mentioned Officer settled Bhug Singh's two-fifths share in the Thanesar estate, which lapsed to Government on the death of Bhug Singh's grandson, Jamial Singh, in 1832. Captain Murray's settlement report cannot be traced, but the system he followed elsewhere, and which he doubtless adopted here also, was to fix the revenue "by deducting pachotia, an allowance of about five per cent. from the average collections of preceding years." That is to say, the basis of the assessment was the assumed value of the grain realized by the Sikh Government. Such a settlement could not fail to be oppressively high.

The villages of the Ludwa State, which lapsed in 1840, were summarily settled by Captain Abbott. For most of the villages, Captain Abbott had returns of the Sikh collections for the previous five years. He struck off the cesses which he calculated to amount to 16½ per cent. on the receipts by apportionment of crops and *zabti* rates; and took a cash assessment nearly equal to the balance. As the *batai* rate was one-third in some villages, and one-fourth in others, which are the existing rent rates, Captain Abbott's assessment took for Government the whole of what we should now call the owner's assets. Landholders received an allowance of 5 per cent. deducted from the revenue.

Bhanga Singh's three-fifths share in the Thanesar estate lapsed in 1850, and was summarily settled by Captain Larkins. He arrived at his demand by the same process as had been followed by Captain Abbott in assessing Ludwa, but Mr. Wynyard, who condemned most of the summary settlements for their extreme severity, made an exception in favour of Captain Larkins' work.

The regular set-
tlement 1849—1856.

319. Mr. Wynyard's regular settlement of the Thanesar District was begun in 1848, and was not finished when he left the District in 1852. The work was made over to Captain Larkins for completion, but it was soon found that the assessments already given out by Mr. Wynyard must be revised. Captain Larkins reported the result of his operations to the Commissioner in 1856. Mr. Wynyard's assessment circles and rates were very numerous. He states that the end of all his

* An eighth estate has been transferred to Karnal by river action since the completion of the revised settlement.

inquiries was "to ascertain as nearly as possible the true rental, to leave one-third of that for the zamindar's profits, and to fix the remaining two-thirds as the Government jama."

The amount payable to chaukidars was deducted from the demand by two-third's assets rates, in order to fix the realizable jama; but in many cases very considerable additions were made for waste.

It is quite clear that Mr. Wynyard intended to make a lenient assessment. He wrote himself:—

"I have always borne in mind that a settlement, to be paid with ease, must be a light one, and I have never forgotten the constant injunctions that the assessment should be moderate. My remissions from the old jama are heavy."

He inveighed strongly and indeed almost violently against the incredible severity of some of the summary settlements, and the rigorous manner in which an exorbitant demand was wrung from the people by the officers who had charge of the Amliata District. Nevertheless, his own settlement became a by-word in the province for over-assessment, and had to be revised by four different officers within the first 10 years of its currency. It is necessary to explain the reasons why Mr. Wynyard's good intentions bore such unfortunate fruits.

320. The chief causes of the failure of the settlement appear to have been four, for three of which the settlement officer was responsible, while the fourth arose from circumstances over which he had no control, and which he could hardly have foreseen. These were:—

- (1) An over-measurement of well irrigated land.
- (2) An exorbitant assessment of the waste.
- (3) The severity of the rates imposed on the premium dry cultivation.
- (4) The great fall of prices which began about 1851, and lasted till the famine of 1860-61.

Over measurement of well lands, though it occurred in some villages, was not a general cause of error in the part of the Thanesar District included in the present Indri pergunah. When the waste area was large heavy progressive assessments were imposed in the hope of forcing the landowners to rapidly extend cultivation, which they had not the means or the inclination to do. Mr. Wynyard's chahi rates were not in themselves exorbitant, though they were applied to too large an area, but his *barani* rates were very severe, considering the pooriness of the soil in the Khadir, and the extreme uncertainty of the crops in the uplands.

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The regular acc.
demand 1840-1840.

Reasons for the
break down.

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Revenue.

Revenues for the
break-down.

In the annexed table, Mr. Wynyard's assumed prices for the principal grains are compared with the average prices received by *zamindars* for the six years, 1854 to 1859:—

	Wheat.	Barley.	Oats.	Rice.	Turk.	Jowar.	Bajra.	Green Peas.
Mr. Wynyard's assumed prices	47	48	40	43	28	12	12	55
Average prices received by <i>zamindars</i> between 1854—1859	45½	67½	62½	33½	31	24	20	29½

Many of the villages had never been summarily settled, and the transition from grain to cash payments came at a particularly unlucky time. Nothing but a very light assessment could have stood such a strain, and Mr. Wynyard's demand was heavy.

Revisions of the
regular settlement.

321. From 1849 to 1862 the *patnana* may be said to have been always under settlement. Mr. Wynyard's work was reviewed by four officers in succession, with the result that, a dozen years after settlement, there was scarcely an estate left which was paying the revenue originally fixed. The result of the various revisions is shown below, the revenues of the villages which were settled for the first time by Captain Larkins being entered separately to facilitate comparison:—

First regular settlement by whom made.	No. of estates.	DEMAND OF FIRST REGULAR SETTLEMENT WITH RATES ON CULTIVATION.		DEMAND OF REVISED SETTLEMENTS.		
		Initial.	Full.	Larkins.	Duck.	Elphinstone and Davies.
		Rs.	Rs.	Rs.	Rs.	Rs.
Wynyard ...	102	1,45,700	5,55,180	1,44,903	...	...
Larkins ...	15	21,678	33,220	35,519	...	...
Total ...	237	1,67,378	5,88,400	1,80,422	1,60,060	1,60,113
Date on cultivation.	...	1-0-0	1-10-5	1-0-0	1-7-0	1-6-1

The demand before the recent revision was somewhat larger than that shown above as resulting from Captain Davies' revision because the area of patty rent free grants was assessed after settlement and because some villages have been transferred by river action from Muzaffarnagar to Karnal. Generally speaking, Captain Larkins confined himself to striking off the heavy progressive assessments imposed on account of waste, and as these were severest in the Narlak Circle, his largest reductions were given there. He also reduced the demand when a comparison of the irrigated area recorded with the number of wells seemed to show that there had been an over-measurement of well lands, but he failed to realize that the dry rates were much too high.

His total demand was less than Mr. Wynyard's by 5 per cent.

Captain Larkins' report was written in February 1856, but his returns were inaccurate, and his successor, Captain Birk was ordered to revise them, and also to give further reductions where required. He reported the result in March 1857—(No. 83 A, dated 25th March 1857), but he appears to have given further relief in 1859. He lowered Captain Larkins' demand by 8 per cent.

Captain Birk saw clearly that Mr. Wynyard's rates were too high, and he put the assessments in many circles considerably below that brought out by their application to the cultivated area.

Two revisions had left the demand 13 per cent. lower than that fixed by Mr. Wynyard. But distress in Thanesar appeared to be chronic, and notwithstanding the large measure of relief given, the revenue continued to be realized with the greatest difficulty, coercive measures were constantly adopted, and farms and transfers of revenue paying land and even of whole villages were frequent.

The work of revision was again undertaken. This time it was entrusted to Captain Elphinstone, who carried it out in the spring of 1860. The Commissioner doubted the sufficiency of the relief granted; but before further action was taken the famine of 1860-61 occurred. After the famine, a fresh revision was ordered. It was carried out by Captain (now Colonel) W. G. Davies, in the cold weather of 1861-62, and his proposals were sanctioned by Government two years later, (Secretary to Government, Punjab, to Financial Commissioner No. 416, dated 23rd April 1864).

Very large balances had accrued in the famine year, and most of these were, on Captain Davies' advice, retained.

The result of four revisions was the reduction of the original demand by Rs. 31,516, or 16½ per cent.

Thanks to the rise of prices coincident with the last revisions, the reduced revenue was paid, though the tract as a whole did not prosper.

322. The revenue history of the pargana from 1862 down to the recent revision of settlement may be briefly dismissed. In 1862 on the transfer of Indri to Karnal the difficulties of the Jai

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villages in the north of the Khadir and Bangar were aggravated by the ill-considered prohibition of paddy cultivation. Down to the famine of 1877-78 the fatal policy was adopted of collecting the revenue "in full in good and bad years alike. Even in the famine of 1868-69 the suspensions appear to have amounted only to about Rs. 1,000. Since 1877-78 a more rational system has prevailed. In the famine of 1877-78 large advances were made for the purchase of seed grain and bullocks, and suspensions were given in many of the villages of the two upland circles. In *kharij* 1877-78 Rs. 4,925 were suspended in the Bangar and Rs. 7,198 in the Naulak. In the next two harvests further suspensions, amounting to Rs. 8,750, were sanctioned in the Naulak. Between the famine of 1877-78 and the *kharij* of 1884, almost all the harvests failed more or less in the drier parts of the tract. Suspensions were given in the spring harvests of 1881, 1882, 1883, and 1884, and in the *kharij* of 1883. In the three harvests, *rahi* 1883, *kharij* 1883, and *rahi*, 1884, above Rs. 25,000 were suspended in the three assessment circles. No demand which is just to one to Government and the people can ever be collected in this tract without frequent suspensions and the suspended revenue should be steadily realized whenever a good season comes round. The realization of this fact is the key to any successful revenue administration of the Karnal district, and this view has been emphatically endorsed by the Punjab Government (Rev. Com. XI, para. 42).

This period was
the worst of 1896.

323. Mr. Davis divided the *pargana* into three assessment circles, Khadir, Bangar, and Naulak. He had only two rates on cultivation, irrigated and unirrigated. The small area watered from tanks and the rich canal *salak* were treated as irrigated. Warned by Mr. Wynyard's mistake and by the result of his own observations he rejected the recorded *shahi* area for purposes of assessment, and with regard to the results of the crop returns of 3 years took the assessable area per well wheel or bucket in the Khadir and Naulak as 12, and in the Bangar as 18, acres. The *shahi* area of each circle was obtained by multiplying the number of wheels or buckets which it contained by the assessed area watered per wheel or bucket. The unirrigated rates were applied to the land watered by wells, and the difference between them and the wet rate was treated as a water advantage rate and distributed over the wells according to the irrigating capacity of each as shown by the crop returns of each year. The difference between the work done by the wells even in adjoining estates and of different wells in the same estate is so great, and the recorded well areas are so trustworthy in this particular that in order to fix the water advantage rate fairly the average irrigation of each well in every estate was calculated, and a lump *abiana* fixed for it with reference to its apparent irrigating capacity. Of course when the revenue was distributed over holdings the landowners were allowed to modify the distribution of the total village *abiana* over the wells. There was another reason for imposing the water advantage rate on each well as a lump

own. There is a good deal of irrigation in Indri by men, who, according to the settlement papers, have no share in the wells they use. Sometimes water is admittedly taken only by permission of the owners, but in many cases the irrigators claim a right to a regular turn of irrigation, and assert that they have always enjoyed this. The fields of such men were recorded as well-irrigated; but, if they had been assessed at wet rates and water had subsequently been refused, a grave injustice would have been done. On the other hand, when the irrigated part of the assessment took the form of a water-advantage rate imposed in a lump sum on the well, the recorded owners of the well had to meet, when the demand was distributed over holdings, whether they would pay it all themselves, or divide it between themselves and the other irrigators. When they adopted the latter course, they will be unable to refuse the non-owners water during the term of settlement.

In view of the diminution in the number of wells in the Bangar and Nardak since the regular settlement, Mr. Donie suggested that, when a well fell permanently out of use, the *abiana* should be remitted, and this proposal has been tentatively approved by Government. Final orders on the subject will be passed when the settlement report is submitted.

324. The Settlement Officer described the chief considerations which determined the amount of his assessments as follows:—

"The main question therefore is—Has the tract prospered under (the existing) assessment or not? The reductions given at three revisions of assessment, and the fact that a permanent rise of prices was coincident with the last revision, have prevented its ruin, but they cannot be said to have secured for it any abounding measure of prosperity, and I think further relief is required.

Population has declined, and there is some deficiency of agricultural stock. A good many wells have fallen out of use in the Bangar and Nardak, and little has been done to supply their places. In the Khadir, on the other hand, irrigation has increased, and should increase still more, as wells cost little, and expensive bullocks are not required. * * * * The value of land is small. Rents have remained stationary since last settlement, and they are very low. The soil is good in the upland circles, but the seasons are very capricious and the culture most precarious. In the Khadir, the land is poor, and the most productive part of it, the canal *silab*, has lately been reduced by three-fifths. A number of estates both in the Khadir and Bangar have been injured by the prohibition of opium cultivation.

Against these considerations we have to put an increase in the cultivated area of $3\frac{1}{2}$ per cent. in the Khadir, 12 per cent. in the Bangar, and nearly 31 per cent.* in the Nardak. The rise in the

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The second settlement of 1904.

General considerations determining the amount of the revised assessment.

* The comparison should have been between the cultivated area and the total of the two settlements. Apparently a good deal of the land recorded as fallow at the 1st settlement would have been cropped at the second settlement as cultivated, though part of the large fallow area of 1904 was probably really fallow. In the Khadir the area of cultivation, and *jarai* had fallen off by 1 per cent., in the Bangar it had risen by 2, and in the Nardak by 2 per cent.

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General considerations—determining the amount of the revised assessment.

Bangar and Nardak has been in the precarious dry cultivation, and in the latter circle our recorded cultivated area is, for reasons already explained, far above the average annual cultivation.

"The existing demand in the Indri Khadir is much heavier than that assessed by Mr. Ibbetson on the adjoining Karnal Khadir. Mr. Ibbetson's rates applied to my area would give a revenue of Rs. 75,785, while Rs. 89,447 are at present paid. His Nardak rates, applied to my excessive Nardak area, bring out a demand above Rs. 800 below that now taken. His dry Bangar rate is much higher than I would venture to propose. But the circumstances of the two circles are very different, as Mr. Ibbetson recognized by suggesting a dry rate of 14 annas in Indri as compared with 17 annas in Karnal."

Assessment of the Khadir.

325. A resume of the assessment of each circle is given below:—

The Khadir covers an area of 161 square miles, of which 96 are cultivated. One-sixth of the cultivated area is protected by wells, the number of which had increased by 4 per cent. since 1856. Cultivation and *jadid* had fallen off by 1 per cent., and population had declined. The soil is inferior. The canal *mulah* is the most fertile part of it but the remodelling of the Western Jamma Canal has reduced the area from 2,537 to 973 acres. For the same reason the small amount of canal irrigation has ceased entirely.

Thirty-seven per cent. of the area is owned by indistinct Jats, Rozs, Kamboh, and Malis; 31 per cent. by Rajputs, and 13 per cent. by Pathans, the chief Pathan proprietor being the Nawab of Kunjpura, who owns a great deal of land in his jagir villages. A little more than half the cultivation is in the hands of Jats, Rozs, Kamboh, and Malis. The number of occupancy tenants had fallen off greatly since 1856.

Six per cent. of the total area has been sold since last settlement, more than half being to money lenders or men of capital like the late Nawab of Kunjpura. The average price per acre is below Rs. 20. Four per cent. of the land is mortgaged, and the mortgage debt amounts to more than the annual revenue demand.

The harvests are not really secure. In the severe drought of 1893-94 about a fourth of the area sown failed to yield a crop, and much damage is often done in the *Kharif* by floods. The grain and cash rents are low. Owners generally get one-third of the produce. The demand was Rs. 89,319, rate 1-7-3. The half assets estimate amounted to Rs. 78,062. The settlement officer's proposed rates were:—

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Assessment of the Khadir.

Detail.	Area in acres.	Rate.			Demand.
		Rs.	A.	P.	Rs.
Irrigated ...	12,448	2	4	0	25,698
Unirrigated ..	48,078	1	1	6	53,493
Total ...	60,526	1	5	3	61,501

Government sanctioned the rates proposed in this and the other circles. The revenue actually announced was Rs. 82,661, rate 1-5-7. The greater part of the decrease was in *jagir* estates, which had not been given the full benefit of previous revisions.

326. The area of the Bangar is 115 square miles, of which 64 are cultivated. Cultivation and *jadid* had increased by 2 per cent., while the number of wells had fallen off, and the population had declined. Two-thirds of the valuable canal *saib* has disappeared with the closing of the old line of the Western Jamma Canal, but as a set-off against this, there is a considerable increase of canal irrigation. About 30 per cent. of the cultivated area is protected by wells. The Bangar has a much better soil than the Khadir, but the dry crops are more precarious. In the drought of 1883-84 only half of the recorded cultivated area yielded a crop, though the wells were strained to the utmost. More than half of the area is owned by Jats, Hars, Kambois, and Malis, and about one-fourth by Rajputs.

Assessment of the Bangar.

134 per cent. of the total area has been sold since the regular settlement, 40 per cent. of the sales being to money-lenders. The average price per acre is only Rs. 10. Mortgagees with possession hold 54 per cent. of the total area, and the total mortgage debt is about 14 times the annual revenue demand of the circle.

The cash, *rabti*, and grain rents are all low. Where the tenant pays a share of the crop, he usually gives one-fourth, but one-third is often charged in the north of the circle. The half assets estimate amounted to Rs. 45,104. The revenue was Rs. 50,445, rate 1-3-8. Mr. Davis proposed to leave this practically unchanged. His rates were:—

Detail.		Area in acres.	Rate.			Demand.
			Rs.	A.	P.	Rs.
Irrigated	10,542	2	4	0	23,243
Unirrigated	30,382	0	14	0	26,584
Total	41,024	1	3	8	50,329

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Narailak.

An owner's rate calculated at half occupier's rate was introduced in four canal irrigated estates. The demand actually imposed was Rs. 50,600, to which Rs. 900 may be added as probable receipts from owner's rate.

327. The Narailak covers an area of 134 square miles, of which 46 are cultivated. Cultivation and *faid* had increased by 5 per cent. since 1856, but there was a marked falling off in the number of wells. Only 9 per cent. of the cultivation is protected by wells.

If the census was accurately made in 1855 the population increased by 17 per cent. in the 13 years which elapsed between the first and second enumeration. There was a decrease of 5 per cent. between 1868 and 1881. The soil is stiffer than that of the Bangar. The rain-fall is scantier, and the cultivation still more precarious. Little more than one-fourth of the recorded cultivated area bore a crop in 1883-84.

Thirty-five per cent. of the arable is owned by Rajputs, 11 per cent. by Jats, and 52 per cent. by Rors. The Rajputs and Jats are in difficulties, the Rors are extremely indolent and in fair circumstances.

Since settlement, 8½ per cent. of the total area has been sold, and above half of the sales have been to money-lenders. The average price is only about Rs. 8 per acre. The amount of mortgage debt is small as compared with the other circles, the chief reason probably being that the land is less valuable as a security.

The produce is frightfully precarious, almost nothing in bad years, and very large when the rainfall is abundant and seasonable. *Jowar*, coarse rice, and gram are the great staples.

Zaddi and grain rents are low, and cash rents are very rare. When division of crop is the rule, one-fourth is almost always taken. The half-assess estimate based on the average of the crop returns for three years was Rs. 16,831.

The demand of the year 1884-85 was Rs. 24,744, rate Rs. 0-13-4. Mr. Douie proposed a revenue of Rs. 24,062, if the whole circle was put under fixed assessment. The details were:—

Detail.	Area in Acres.	Rate.	Demand.
	Rs.	Rs. A. P.	Rs.
Irrigated	3,129	2 0 0	6,258
Unirrigated	26,594	0 10 0	16,621
Grazing	67,542	0 6 6	1,378
Total	67,265	0 12 11	24,056

The revenue finally fixed was Rs. 23,580, rate Re. 0.12-8, but of this Rs. 10,905 represent the alternative fixed demand in estates put under the system of assessment described below:—

Mr. Donie proposed that 22 Rajput and Jat estates in the west and south of the circle, where the irrigated area is small, the cultivation peculiarly precarious, and the owners likely off should be put compulsorily under a mixed fluctuating and fixed system of assessment. Most of the other Nariak estates were to have the offer of a fluctuating assessment. If they declined it, as the settlement officer anticipated they would, they were further to be allowed during the currency of the new settlement, to throw up their leases and come under the fluctuating system. The Deputy Commissioner was to have authority, with the sanction of the Commissioner, to cancel the settlement of any estate, of which more than one year's demand was in balance, and to collect the revenue at fluctuating rates. The power of cancellation would only be exercised when there was no prospect of realizing the arrears within a reasonable time.

The system finally sanctioned was as follows:—A fixed assessment amounting to Rs. 2,247, was imposed on the recorded chahi area and on the pasture land. On the barami and small abri area the revenue is assessed harvest by harvest at the rate of one rupee per acre on all crops successfully cultivated. The success of the experiment depends entirely on the *patwaris'* work being closely and honestly supervised. So far Government has no reason to regret the adoption of this plan, as the following table proves:—

Year.	REVISED ESTIMATED ANNUAL REVENUE.			Alternate Fixed Demand.	REFERENCE.	
	Fixed.	Fluctuating.	Total.		Place.	Minute.
					Rs.	Rs.
1890-91	2,247	6,600	8,847	10,905	5,011	1,425
1897-98	2,247	14,500	16,747	10,905	7,000	-
1898-99	2,247	15,651	17,898	10,905	562	-
1899-00	2,247	9,230	11,477	10,905	-	-
Average	2,247	11,642	13,889	10,905	2,581	-

325. The revenue of the Indri pargana as a whole was lowered from Rs. 1,64,398 to Rs. 1,56,853, or including owner's rate Rs. 1,57,733. The decrease was in assigned revenue.

General result of
settlement of Indri

326. The effect of the Karnal-Ambala Settlement on the former district was to raise its revenue by Rs. 35,663, to which must be added Rs. 14,000 on account of owner's rate. Roughly, therefore, an enhancement of half a lakh was taken, but it is not unlikely that with the imposition of owner's rate the canal irrigation may fall off somewhat, and that calculations based on the average & occupiers' rates for five years before settlement may not be fully realized [see para. 340].

Effect of Karnal-
Ambala Settlement
on revenue of Karnal
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PART II—THE PANIPAT DISTRICT.

Early Revenue History.

350. The state of the country when it first fell into our hands, has already been described in Chapter II. As soon as the establishment of British rule guaranteed the preservation of general order, the tract settled down as it by magic; the people who had taken shelter in the larger villages returned in their flocks and herds; and those who had left the District altogether gradually came back again. But the habits which nearly a century of anarchy and confusion had engendered were not at once to be eradicated; and the oppressive manner in which we at first conducted our revenue administration greatly delayed the process. For the first few years revenue matters were practically in the hands of the people to whom we had assigned the various parts of the tract. But in 1817 we began to assess summarily the annual revenue to be paid by each village, not only in estates which had lapsed by the death of the assignees, but also, at the request of existing assignees, in many estates still held by them; and by 1824 this process was tolerably complete for the non-Mandal portion of the tract settled by Mr. Hobson.

The summary assessments were, throughout, incredibly oppressive. The assessment was based on the principle that Government was entitled by "the custom of the *pargana*" to half the gross produce of the cultivation; and a set of cash rates on the various crops which had sprung into existence under the Sikhs, and which had apparently been applied to a larger *bighah* than that used by us, were levied on areas taken from the *hauzagi's* records (afterwards found to offer no sort of approximation to the real acreage) or roughly measured at the expense of the village. The rates, as applied, were Rs. 16 per acre for sugar-cane; Rs. 9-3 for wheat, cotton, and rice; Rs. 6-14 for barley; and Rs. 3-7 for other crops. These rates, however, were only used in well-developed estates. Where pasturage bore a large proportion to cultivation, a rate of Rs. 3 per acre was imposed on the whole cultivable area, "so as to induce the people to extend their cultivation." Besides this, a new tax on cattle was introduced at the rate of Rs. 2 per buffalo and Rs. 1 per head of other cattle, the incidence of which was estimated at about 10-6 per cultivated acre. The general incidence of the demands thus fixed averaged Rs. 5 to Rs. 5-8 per acre cultivated in 1828, when the first accurate survey was made. Mr. George Campbell reported that in many cases it would require the whole gross produce of the land and cattle to defray the Government demand. And in fact the assessments were purely nominal, as they were never collected—"in some instances not half of them—even in the first year of settlement." What could be got from the people was taken, and the remainder accumulated as balances. These were constantly added to the

demand, so that year by year it increased in arithmetical progression; and if a good season rendered possible a surplus over the actual demand of the year, it was at once seized on account of the balances of less favourable seasons.

As early as 1822, before the settlement was even completed, there were balances of a lakh-and-a-half in *taluk* *Panipat* alone; and the Board pointed out that "the inhabitants of some villages, nearly in mass, had abandoned their lands and homes and migrated to distant parts." In 1823 the Commissioner wrote:—

"As a very early period after the conclusion of last settlement, the error in the assessments was discovered; large balances occurred annually, till eventually the whole of *Panipat Khair* was taken under direct management, and the impoverished people, without the means to pay half or even a third of their original assessment, were once more content to remain on their soil."

In 1836, four-and-a-half lakhs of balances, dating from as far back as 1814, were still outstanding. The system of settlement was no less oppressive than that of assessment. Large portions of villages were made over to neighbouring communities to hold and cultivate; and some of them so held and cultivate them to this day. The village headmen, who were inordinately numerous, were spoken of and treated as the proprietors; the other members of the community as "royals." The settlement was made with the headmen alone, and no record existed of rights, which had become a burden rather than a source of profit. There were no village accounts, and the collection of the revenue from individual cultivators was entirely unchecked so long as the amount was forthcoming. When a settlement was made, the headmen were imprisoned till they agreed to the terms offered (in one case for ten, in another for seven months); and, having accepted them, till they furnished security for payment. One village refused to agree to the assessment, no farmer could be found, and the Commissioner directed the Assistant to "confine the people and their cattle to their houses and the immediate site of the village, and sequestrate all land, orchards, &c. and enough of cattle and goods to cover the balances." Farms were only not common, because no farmers were forthcoming, and village after village was held in direct management. In 1824 the Assistant writes:—

"With whatever means a farmer may have commenced his agricultural career, he has generally contrived to visit the jail four or five times, and to attain an unenviable state of ruin in the course of three or four years."

The mode of collection was as vexatious and extortionate as the assessment was oppressive. The collections were made in February and September, long before the harvest; and the collector was thus "forced to part with his grain at a ruinous sacrifice." Guards were appointed to watch the crops in the

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interest of Government, but at the cost of the owner; and, directly the revenue was overdue, horse and foot were quartered in the village at its own expense. One hundred and thirty-six *haramis* were retained for the collection of the revenue, while 22 sufficed for the police duties of the same tract. The Board of Revenue writes:—

"A pernicious practice prevails of overwhelming the villages with swarms of hired servants furnished with orders of demand for the instalments of the land revenue, without any regard to the means of the people, the state of the crops, the powers of the village, or the number of hired servants employed. In this way native officers provide for hungry dependants; and men of every bad description, idle, lazy, loitering, are scattered over the land, and find employment in forbearing to realize the monies they are sent to collect."

In 1822 the fees of these gentry were reported by the Collector to have amounted to more than a *lakh* of rupees, of which the revenue sheriff admitted having received Rs. 600 *per annum*. In 1826, after two consecutive years of famine, a small village had all its crops seized, all its headmen thrown into prison, and one hundred and twenty head of cattle sold for arrears of an assessment, which had never been realized from it in any one year, which was two-and-three quarter times its *present* assessment and of which Mr. George Campbell had declared in 1824 that it would absorb nearly the whole gross produce of the village lands and cattle. In 1823, after a year of great distress, the headmen of 33 out of a tract of 200 villages were in prison for arrears, some for as long as 171 days, and in 1824 the jail force was increased on account of the number of revenue defaulters in custody. In 1826 the Collector reported as follows:—

"The *tahsildar* has urged the people to the extremity of their means, and they are consequently exhausted by a continuance of extraordinary struggles, grievously impoverished, and tremblingly apprehensive of a repetition of the grinding system. In many instances, and often in the largest villages, the whole village has fled in a body; for, after the usual process of imprisonment and sale of property, desertion remained the common ultimatum."

As the Collector reported "everything was done by the personal exertions of the *tahsildar*." Yet in the *tahsils* honesty would have been miraculous. In 1822 the *tahsildars* were paid only Rs. 20 a month. In 1835 one *tahsildar* was officially stated to have been "the principal cause of the ruin of many villages in Muzpat Khadir." The 1836 one *tahsildar* collecting 2½ *laks* annually, enjoyed a monthly salary of Rs. 50; another collected Rs. 65,000 on a pay of Rs. 30; a third, Rs. 1,37,000 on a salary of Rs. 20; none received more than Rs. 100. Between 1821 and 1825 five *tahsildars* were suspended for fraud, within four months of 1835, three were criminally convicted and dismissed, and a fourth committed to the Court of Circuit. A common practice was for the headmen to apply for a suspension of demand, and for the *tahsildar* to support the application.

Sanction being obtained, the full amount was collected from the village, and the *talukdars* and the *headmen* divided the difference. When the Collector visited the village and found that its condition did not justify a remission, he ordered the amount suspended to be realized, and the wretched proprietors had to pay twice over.

Under such circumstances the villagers became vagrants on the face of the earth. If neither of two villages could pay its revenue, the combined capacities of both might meet the demand on one of them. The revenue reports are full of such remarks as this:—"This village is entirely abandoned; half the villagers have run away; only five families left in this village." The protected Sikh States approached to within a mile of Karnal, and encircled the district on the north and west; petty *fugits* lay thick among the Government villages; both offered a hearty welcome, land in plenty to cultivate, and lighter terms than our own to people driven from their homes by the burden of our rule. Desertion was so constant that the Collector in one case represented the uselessness of measuring the lands of a village eighteen months before assessing it, as "a year makes a great difference in the condition of a village; no pains are the people to go from one village to another;" and even the owners are described as "at times prepared to remove their ploughs and cattle to the waste lands of a neighbouring village."

The most stringent measures were adopted to check this evil. As late as 1837, if the people deserted their holdings, they were proclaimed, and if they did not return within one month, all their rights lapsed to Government, which forthwith bestowed them on another. Meanwhile the village which harboured the defaulters and allowed them to cultivate its lands was subject to fines and imprisonment. The village of *Minjawal*, assessed at Rs. 1,148, was sold for a balance of Rs. 286, and bought by Colonel Skinner for Rs. 146. In one case efforts were made to hold a semi-independent chief liable for the arrears of defaulters who had fled to his protection. The correspondence of the day is full of "the contumacy of the people" and the decided measures necessary to "crush this sort of rebellion." The contumacy consisted in omitting to pay a demand which absorbed 60 per cent. of the whole yield of their herds and acres; the rebellion, in leaving, through fear of a prison, the homestead which is dearer perhaps to the Indian villager than to any other man on God's earth.

331. It is needless to describe at any length the steps by which a more reasonable system was arrived at. The famine of 1821 first forced upon the authorities a revision of the assessments, which was made under Regulation VII of 1822. The demands still averaged Rs. 3-8 to Rs. 4-3 on cultivation in small *shak* estates, and Rs. 2-0 to Rs. 3-3 on the whole cultivable area in fully-peopled villages. But a great advance had been made. The revenue survey made in 1828, by giving firm

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1800.

ground to work upon, had rendered impossible those gross inequalities of assessments which had till then been unavoidable. The half-share principle, too, was abandoned, the demand being estimated to absorb about a fourth of the gross produce; and the revenue was collected after instead of before harvest. More attention was paid to the rights of individuals, field-to-field records were prepared showing the proprietary and cultivating tenures, each owner and each occupancy tenant received a slip stating the amount he was liable for; and *potwaris* of a sort were appointed; yet surplus land which a village could not cultivate was still largely settled with the neighbouring villages, and estates were farmed, even when the owners agreed to the assessment, if "poor and broken up," or, when flourishing, if the farmer would give 10 per cent. more than they offered. In fact, the system pursued throughout was that, having estimated the assessment as a guide, the Collector put up the estate to be bid for, allowing the owners a margin of 10 per cent. in their favour. Direct management was still frequently resorted to; many villages were still partly broken up or deserted by their inhabitants, the balances of twenty years still hung suspended over the people; but the general state of affairs was greatly improved, and in 1831 the Collector could report that "for the last four years the revenue has been collected with more reasonable regularity."

After the famine of 1833 the assessments were again largely reduced. It was found that cultivation had "very generally decreased" since the survey of 1823. The rates were still exceedingly high. A rate of Rs. 2.05 *per cultivable acre* was taken as a standard to be worked up to, with "a considerable sum added for outlay" in sparsely peopled villages; and the average on cultivation was Rs. 3.2 to Rs. 3.12, while the rate in some cases reached Rs. 6 or even Rs. 9 an acre. A still greater boon was the remission of the outstanding balances, which was effected in 1836-39. Between this time and the regular settlement of 1842 the assessments of individual villages were, in the Khadir at least, continuously being reduced; but no complete revision of settlement was attempted. In January 1839, for the first time since the conquest of the tract, no one was in prison on account of revenue balances; and imprisonment on this score may be said to have ceased as a common practice from that date.

The Bangur villages, being for the most part larger and more populous than those of the Khadir, had suffered somewhat less from raids in the days preceding our rule; but, on the other hand, the greater labour which a stiller soil entailed upon the cultivator, and the uncertainty of the yield in a tract almost entirely dependent upon rain, made the return of the inhabitants to a village which they had once deserted less easy. The irrigation from the Royal Canal had, till the falling of the Mughal power threw the country into confusion, been very extensive; and there no doubt, as now, wells were but little used where canal

water could be got; while the troubles which closed the canal were not favourable to the laying out of capital in sinking new wells. The tract was therefore more than ordinary dependent upon rainfall—a fact which kept down the cultivation to a far smaller proportion of the cultivable area than in the Khudir. Thus while, on the one hand, demands based on cultivated or cultivable areas pressed far more heavily than where abundant water was easily procurable, on the other hand, when security to life and property were once assured, the existence of an unlimited area of soil as fertile as any already under the plough, gave, with the rapid increase of cultivation, an elasticity under inordinate assessment which was wanting in the more fully developed riverain tract; and the gradual extension of canal irrigation so aided this increase, that from the time when the canal was restored by our Government, its history may almost be said to be the history of the Bangar. That history is sketched in Appendix A, and need not be repeated here.

After 1833 cultivation made enormous strides, and from that time till the regular settlement the prosperity of the Bangar was unbroken save by the epidemics of 1841 and 1843; for scanty rain meant nothing more disagreeable than high prices to villages protected by the canal. These epidemics, however, assumed, a special severity in the canal-watered tracts, and inaugurated for them a reign of malaria, the continuity of which has never since been broken.

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(Detailed settlement.)

332. In 1837 a revision of settlement under Regulation IX of 1833 was ordered; and Mr. Alexander Finner reported on the Panipat Bangar in 1839. His report is lost; but he slightly reduced the current demand. His proposals were rejected, not only as being inadequate to the capabilities of the tract, but still more as being unequal in their incidence, while his survey was found to be so incorrect that the whole work had to be done over again. Mr. Edmonstone then took charge of the settlement, and finally reported on it in 1842. The report has been reprinted in "Settlement Reports of the Delhi Territory, 1874." In every Khudir village but one the new demand was lower than the existing one, and in every village but two, lower than that first assessed upon it; the total reduction was about 15 per cent., and the incidence of the revenue per cultivated acre was Rs. 2-11. In the Bangar the current demand was raised by 6 per cent; but reductions were given in all the finest and largest villages. The incidence upon cultivation was Rs. 2-8-11. At the recommendation of the settlement officer all outstanding balances were remitted; and the people at length had a fair chance of prosperity.

Regular Settlement of 1842.

The new assessment not only possessed the unprecedented merit of moderation, but it bestowed the still greater boon of a contribution of the landmen bearing some intelligible relation to the means of bearing it. Hitherto, each assessment had been

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chiefly based upon the one before it, reduced in such degree as was thought absolutely necessary to keep the inhabitants from absconding. What rates were used had been applied to cultivated or cultivable areas, without distinction of kinds of soil or of irrigated and unirrigated land. The new settlement was based upon rates carefully estimated for each of the three kinds of soil in both its irrigated and dry conditions. The extravagant difference between the rates paid by Jats and those demanded from Gnjars, which had imposed upon the former what Mr. Edmonstone characterises as a severity of taxation "of which, in the course of my experience, I have seldom found similar instances," was in a great measure removed. The long term of the settlement gave substance to the relief; and as Mr. Lawrence says, "the people were remarkably well pleased." The table on the next page gives the best figures obtainable for these old assessments:—

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Early Tenant Settlements.

Group of villages.	No. of villages.	Regular Revenue.					Early Tenant Settlements.							Regular Revenue.					Unsettled areas in 1842.
		First Settlement, 1817-21.	Second Settlement, 1825-33.	Third Settlement, 1832-41.	Demanded in 1841.	Regular Revenue, 1842.	Unsettled areas in 1842.	1841.	1842.	No. of villages.	First Settlement, 1817.	Second Settlement, 1825-33.	Third Settlement, 1832-41.	Demanded in 1841.	Regular Revenue, 1842.	Unsettled areas in 1842.	1841.	1842.	
Group 1.	1	1,40,825	1,13,600	3,06,407	1,13,721	37,000	23,722	31,632	...	14	13,350	53,263	...	...	51,551	27,300	26,281	17,385	1,167
"	11	"	22,450	37,802	18,116	11,622	4,070	2,207	...	25	10,104	...	...	...	24,292	41,020	22,210	31,031	29,020
"	113	"	"	54,337	11,150	12,565	8,821	4,740	...	42	...	33,220	...	...	41,900	60,334	10,320	18,120	17,701
"	15	"	"	"	"	"	"	"	...	11	...	18,540	...	...	21,278	27,323	30,308	6,190	13,316
"	4	"	"	"	"	"	"	"	...	4	...	...	...	...	10,250	16,550	10,305	2,161	9,050
Total.	129	3,40,506	1,45,170	5,15,523	37,613	41,010	...	64	2,08,733	1,90,524	7,13,652	61,720	83,111

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Revenue history since the Regular Settlement. The Khadir.

333. The history of the Khadir since the regular settlement has, on the whole, been satisfactorily monotonous. In 1843 an epidemic occurred, more terrible even than that of 1841. In 1851 a drought began which continued to 1852 and almost caused a famine; and the effects upon the crops were "infinitely disastrous." The famine of 1859-60 was in some degree compensated for by the bumper crops of 1861-62. In 1869 it was estimated that 29,000 cattle died in the Khadir and Bangar tracts. In 1875-77 there was a grass famine and the loss of cattle was serious. The absolutely useless Kher-crope was dug right across the tract, impeding traffic, holding up the Bangar drainage in a great lake between the Khadir bank and the Grand Trunk Road, and allowing it to burst through the rotten banks, to the great injury of the cultivation below it and of the health of the city of Panipat. And much damage has been done by saline effluence and swamp in the north of the tract, where the canal and the Buddha Khora escape traverse the Khadir. The river has done much harm by cutting away good soil; and in some years, by passing in flood down its old abandoned channels. In his assessment of 1842 Mr. Edmonstone did not sufficiently allow for the inferior soil and still more inferior cultivation of the Rajputs and Saiyids who hold the more northern villages; and some of these villages utterly broke down, and considerable reductions had to be made in one instance to the extent of 39 per cent. of the whole demand. But on the whole the settlement, especially in the Panipat *taluk*, worked well; and the tract prospered with the exception of its northern extremity.

Revenue history since the Regular Settlement. The Bangar.

334. In the Bangar the later, no less than the earlier history, depends almost wholly upon the canal and its action in the tract it traverses. The famine of 1859 is still remembered as the year in which all the canal villages cleared up their accounts with the village money-lenders; while in 1869, though the cattle suffered no less than elsewhere, yet the luxuriant crops and high-prices went far to compensate the people for the loss. From 1871 to 1874 they suffered severely from heavy rains; and in the drought of 1875 the peculiarities of the season conspired against them to prevent them from taking advantage, as usual, of a scanty rainfall. But the vicissitudes of the seasons are quite overshadowed in the Bangar by the terrible evils which the canal system has caused by interference with the natural drainage of the country. These are fully described in Appendix A.

Very soon after the regular settlement, the deterioration of the soil forced itself upon the attention of Government. In 1859 the people of some of the worst villages determined to abandon them and settle in Jind unless relief were afforded. The Government, however, decided that the terms of settlement must be adhered to, and that the people had "no right to any consideration;" and all that was done was to take certain villages under direct management, the Sade Board declining to deal with individual estates, and directing that a general report should be made

when, and not till when, the revenue could no longer be realized. As pointed out by Mr. Sherer, "the Jats of this district will pay up as long as it is possible for them to raise money by any device, or at any immediate sacrifice; and when they find default inevitable, they consider the worst come, and leave their villages." Thus the break up was "sudden and complete." In 1856 most of the inhabitants of the worst villages deserted them and fled to Jindh, and the villages utterly broke down. The Government censured the "lamentable apathy" of the Collector; and Mr. Sherer, Collector of Aligarh, was specially deputed to survey and report on the tract.

His admirable report was submitted in 1857, and is printed as part of Selections No. XLII. (1864) from Government of India correspondence, P.W.D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the soil had not nearly reached its limits, but must necessarily continue to spread almost indefinitely. He wrote:—

"The possible resources of the *hissardars* of several estates are now exhausted. They have borrowed money at extravagant interest; they have become the mere farm-slaves of some *landis* residing in their village; they have sold the trees on their estates; they have sold their daughters; they have sold their silver ornaments and brass utensils, and as many of their cattle as it was possible to spare; and no conceivable source of income is any longer available."

Between 1859 and 1861 the villages were taken up in detail; considerable initial reductions were given; and principles were laid down upon which annual relief was to be afforded where necessary, and revenue was to be reimposed where land had recovered. The whole revenue remitted on this account since 1856 has been about Rs. 1,68,350. Mr. Ibbotson thus describes the result of these operations:—

"I have no hesitation in saying that the relief so afforded has been wholly inadequate. The initial reductions, welcome as they were to the sufferers, do not seem to me to have accurately measured the degree of mischief. The demand on such land as had become absolutely and obviously unculturable was remitted; but little, if any, allowance was made for the deterioration of the remaining cultivation, for the impoverishment due to an ever-increasing burden borne for so many years, for the sickness of people and cattle, or for the almost total absence of pasture. No reduction was given where the decrease in cultivation was less than 10 per cent. on the whole cultivated area of the villages; and the result was that the individuals and subdivisions of villages which had lost a much larger proportion of their land failed to obtain relief.

"As for the subsequent yearly action it is difficult to characterize it too strongly. The directions of Government would appear to have been entirely overlooked, and no intelligent review of the whole circumstances of a village ever attempted. No remissions have ever been made, so far as I can discover, on account of general

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astronomical, apart from decrease of cultivation. That it became merely a matter of arithmetic—so many acres considered barren at so much an acre, find the reduction in measurement—was perhaps only to be expected in what had become a part of the yearly routine of the *talukdār*. And to grow up all a mistaken reading of the orders, confined the inquiry to such parts only of the area of each village as had been badly injured before 1860: so that subsequent spread of the soil was not taken into account at all."

The Mandal Tract.

335. The early history of the Mandal Tract which had been made over to the assignees in 1806, differs materially from that of the remainder of the tract as sketched above: for up to 1847 there was no fixed demand, the Mandals collecting their share of the produce in kind. The Mandal villages were pre-eminently notorious for turbulence and crime. They were almost wholly held by Rajputs, proud, quarrelsome, and fearless, looking upon agriculture as derogatory; they were cattle-graziers by profession, and cattle-lifters by hereditary taste. The few large villages in which they were concentrated were elevated far above the surrounding plain upon the accumulations of centuries, were surrounded by deep ditches and high walls with forts at the four corners, could only be entered by strong gateways with massive doors, were composed of lofty houses which turn their loopholed backs to the narrow winding streets, and were built almost entirely of brick. From their strongholds they drove forth their herds to pasture, while their servants tilled the sandy fields. Watchers on watch-towers and high trees throughout the *jungle* constantly scanned the plain beneath; and on the approach of danger, men and cattle sought the shelter of the village, or found yet greater safety in the pathless intricacies of the forest. Such were the people from whom the Mandals "holding, indeed, the title of *Jagirdar*, yet possessing neither the name nor the authority of an executive officer," had to realise the revenue assigned to them by Government.

Under these circumstances the collection of rent from the villagers by the Mandals was a constant struggle between extortion and oppression on the one side, and audacity and cunning on the other. The Mandals themselves, deprived of the mental stimulus to which the warlike times just past had accustomed them, found that harassing and opposing the Government officers, even to lengths which would now-a-days infallibly end in a visit to jail, did not afford them sufficient excitement, and fell to quarrelling among themselves. The villagers fully entered into the spirit of this pursuit. Many of the largest villages were held jointly by the various Mandal families, and the boundaries of all were but loosely defined: and the people found that it was at once profitable and exciting to play off one Mandal against another. The chiefs themselves were for the most part ignorant and illiterate, and were inclined to pleasure than labour; and the management of the estates was left in the hands of dishonest and unscrupulous stewards, whose interest in them was strictly confined to the immediate profit that

could be made from them. Thus arose that bitter feeling of hostility between the villagers and the Mandals which exists in seasonably diminished intensity to the present day.*

The *pargana*, thus managed, had always been a thorn in the side of the authorities. At first the villagers had probably rather the best of the contest. But as order spread and authority was established, the position enjoyed by the Mandals, their greater knowledge of the law, and their longer purses, gave them a very decided advantage. As early as 1827 the Collector reported that the Mandals exercised very great oppression. In 1834 Mr. John Lawrence wrote that they were brutally unfair and extortionate; and the instances he gave in support of his assertion are such as it is almost incredible should have been permitted by the authorities. Eventually matters reached such a pitch that Government had to appoint a manager to act for the Mandals in some of the larger estates. Meanwhile the Bangar and Khadir had been steadily progressing and cultivation extending. Even in the Nardak improved administration had done much to reclaim the people from their lawless habits; and in 1847 only 12 of the 95 villages were uninhabited, and those were small ones. But the proportion of the area under cultivation was still exceedingly small; the "police officials openly connived with the notorious depredators of those parts;" and the Nardak was "the most troublesome and the only turbulent part of the district." Such was the condition of the tract when the Lieutenant-Governor marched through it, in the end of 1844. The impression made upon him by what he then saw, and the detailed instructions which he issued, will be found at length in Mr. Hobson's *Assessment Reports*. The following extracts will show the considerations which led him to direct that a regular settlement of the Mandal villages should be effected:—

"In marching from Karnal to Khatul, the Lieutenant-Governor was much struck with the poverty and bad management of a great part of this estate. * * * The estate is large and valuable, whilst the permanent quit-rent with which it is charged is trifling. The Mandals are understood to have been already, great gainers by the exchange; whilst by good management the value may be very greatly improved. The villages are British territory, subject to our laws in all branches of the administration. It is very doubtful if any circumstances justify the Government in leaving subordinate proprietors at the mercy of an assignee of the Government revenue, without interfering to define and record the rights of all parties. Circumstances in this case, however, particularly bind the Government to interfere. The lands were assigned by this Government, who are therefore bound to come forward and provide that no wrong is inflicted by the act of assignment, which resulted from the policy of the day. There are no well-established and doubtful claims, of proprietary right to investigate. The village communities remain

* The villagers to this day commonly speak of the Mandal who receives their revenue as their "*mandal*"—or "*prosecutor*."

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in all their integrity the unquestioned owners of the soil, and often able to resist by physical strength even the just demand of their superiors. If by one policy we deprive them of the benefit of their strength, we are bound to substitute for their innate means of resistance the protection of legal arbitration. The Mandals did not very strongly object to the measure. They were apprehensive that it might curtail their influence and consideration, though they perceived that it might augment their income. The measure ought not to rest on their approval or rejection, and the Lieutenant-Governor is fully convinced that justice and sound policy alike demand its execution."

Mandal Settlement of 1847.

336. Mr Gubbins at once commenced the settlement which was sanctioned in 1847. The operations were conducted under circumstances of the greatest difficulty. The conquest of the Punjab was then in progress; and at the frontier station of Karnal the demands upon the time of the civil officer were heavy and inexorable. The Mandals presented their conflicting interests with "money, argument, and occasionally armed retainers;" the people, unaware of its importance, were profoundly indifferent to the correctness of the record. The Settlement Officer did his best to patch up his material by arbitrarily increasing or diminishing all recorded areas in different villages according as he thought the survey figures too small or too large; but he confessed that the record was eminently unsatisfactory; and therefore proposed that sanction should be accorded to the settlement for a term of five years only. But the errors of survey and record were immaterial, compared with the capital error which vitiated his assessments. His duty was to assess the dues of the Mandals, which were measured by "the legal and regulated right of Government to the land revenue." Hitherto the Mandals had collected rent, not revenue; and almost always in kind. Theoretically, the new demand should have been, under the rule of the day, two-thirds of the average collections thus made. Instead of this he assessed the Mandals at more than the average past collections as stated by the Mandals themselves, though their statements were known to be grossly exaggerated, and though a fixed money demand was being substituted for a self-adjusting levy of a share of produce as it varied with the varying seasons.

The settlement thus made was received with the greatest discontent. The people refused to accept it; and the Mandals, while petitioning against it as unduly low, encouraged the people in their refusal by promising them easier terms. The feeling of the people was especially embittered by the transfer to the Mandals in absolute property, under the directions of Government, of all villages which had been abandoned when the Mandals took over the tract, and to the resettling of which they had in any way contributed, either by loans, expenditure of capital, or settling cultivators. Ten inhabited and 12 uninhabited villages, comprising an area of 20,500 acres, were thus made over to the Mandals; they still hold them as owners; and this more than anything else

has succeeded to envenom the minds of the people against the *jagidars*. The settlement was sanctioned, at the request of the settlement officer, for five years only; and the people eventually accepted the terms offered. Mr. Gubbins' report is printed as No. XXXI, Part VI, Vol. II of Selections from public correspondence, North-Western Provinces, Agra, 1842.

337. Within these five years balances of Rs. 65,500 had accrued on an assessment of Rs. 30,763 in the 28 leading villages of the Nardak. Some balances were also owing in the Khadir. The Collector reported that the most of the people would gladly return to direct management, and would certainly refuse to renew their engagements; that it would be impossible to find farmers; and that the Mandals had taken out decrees for their balances, and would probably put up the villages to sale. The Lieutenant-Governor discussed the matter at Delhi, and Mr. Ross was directed to revise the assessment. He was directed to "arbitrate between the Mandals and the people as he would between Government and its revenue-payers." He was to reduce the assessment, if too heavy; and to endeavour to induce the Mandals to relinquish so much of the balances as might appear to be due to over-assessment. As they held decrees, nothing more than persuasion could be used; but if they declined to abandon unjust claims, the estates were to be assessed at exceedingly low rates, so as to render the liquidation of balances possible. Mr. Ross failed to induce the Mandals to relinquish any part of their balances; but with great difficulty he brought them to accept payment by instalments. He reported that "he had seen many parts of the country, but nowhere had he beheld so much poverty and depression as in many of the large villages of the Nardak; that house after house was deserted and in ruins; that there was an absence of everything indicative of comfort; and that the number of cattle that had died during the season would still further affect the prosperity of the villages." He also pointed out that, independently of the impoverished state of the estates (which alone would make it impossible), the absence of the majority of the villagers must render any attempt to collect even a portion of the balances abortive; for famine had driven the greater part of the Nardak population to other and more fertile districts, there to gain a livelihood as they best could, and graze their starving herds. Yet he wholly failed to realize the inordinate nature of the assessments he was revising; he was of opinion that their failure was owing to a quite exceptional run of bad seasons; and while he proposed a quite nominal reduction of 6 per cent. in the Nardak and 4 per cent. on the whole tract, he directed the balances to be liquidated by yearly instalments of half the assessment, thus really enhancing the demand, which the people had been wholly unable to pay, by 48 per cent.

The people of most of the Nardak and of some of the Bangar villages, where the canal was beginning to do harm, refused the terms; and of a total demand of Rs. 1,00,001, only Rs. 56,239,

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was engaged for. No farmers were forthcoming, and the Mandals took the vacant villages into direct management. They also sent out execution of their decrees for balances; but the Sadr Board flatly refused to allow any estate to be put up for sale till Government orders on the revised settlement should be received, and thus saved the Nardak from wholesale confiscation. The orders of Government were delayed, and in 1855 it was found that direct management had not even realized the assessment, much less realized the balances, while in the Nardak villages which had engaged for the new assessments new balances had steadily accrued year by year.

The Lieutenant-Governor once more discussed the matter at Delhi. He decided with regret that it was not within the competence of Government to take the *pargana* entirely under its own management, paying the revenue collected to the Mandals. He remarked that there was "good reason to apprehend that frequent failure of crops was much more the rule prevailing over the tract," than Mr. Ross had been led to believe in 1852; and he refused sanction to the assessments of 1852, and directed Mr. Ross to make another revision.

Revision of 1856.

338. Mr. Ross reported that most of the Nardak, and especially the vacant villages, had sensibly deteriorated even from their "wretchedly depressed and impoverished condition" in 1852; that one-and-a-half out of the three years that had elapsed since the *pargana* had been last assessed had been, if not seasons of complete drought, at least seasons of partial famine; and that it was only surprising that the estates had "not sunk altogether." The rural villages he found to have been impoverished by the "steady and rapid increase of *reh*, all being more or less affected, and in some instances insupportable damage having been done, while every year sees its increasing." He also animadverted upon the Mandal management:—"No consideration is ever shown, no concession granted with a good grace, and in seasons of scarcity there is no disposition to be moderate. On the contrary, the sole aim is to squeeze as much out of the estates as possible;" and he instanced a village in which no crops had been sown owing to drought, and where the Mandal waited till a lapse of nine months had removed all proof of this fact, and then applied for the reduction of a money-rate, on the ground that the people had prevented his servants from measuring and appraising the crops as they stood. He took the rates Captain Larkins was then using in his revision of the Kaithal settlement, increased them somewhat, and adopted them as a guide. But his assessment and note-books show that he made but little use of them, treating rather to his knowledge of the tract, and to the past history of each village. He reduced the assessment of the whole *pargana* by 20 per cent. In the canal tract he relieved 10 out of the 15 villages, the total reductions being 16 per cent. In the Khadir a reduction was given in six villages, amounting to 12 per cent. on the whole. In the Nardak the demands of all but five villages

were reduced, in many cases to less than half the demand of 1847; the assessment being Rs. 28,190 against Rs. 50,750 in 1852, and Rs. 52,848 in 1847. As nothing more is heard of the old balances, it is probable that the collections between 1852 and 1856 were credited against them, and they were thus got rid of. The figures on the next page show the result of the two reductions of assessment.

The mutiny and the transfer of the district to the Panjab caused some delay; but in 1860 the Panjab Government, while regretting that the pasture lands had been assessed, and remarking that the assessments were still considerably higher than those of the Kaithal district, sanctioned the settlement as having already been in operation for some years. The Board of Revenue, agreeing with the Collector, had recommended that the collection of the revenue should be altogether taken away from the Mandals; but the chief of the family had done good service in the mutiny; and as the proposed measure would have been looked upon by him as an indignity, it was not carried out, and Government—

"Contented itself with confirming the assessments, on the distinct understanding that the rights of the Mandals are limited to an assignment of the revenue, and do not extend to the ownership of the land; and that, in the event of calamities of season, deterioration by saline effluences, or other reasonable cause, the Mandals shall receive the same equitable indulgences as are granted to *khalsa* villages."

The settlement so confirmed is that which Mr. Diction revised.

809. Since 1850 the Nadak villages have, except in famine years, paid the demands then imposed without any very large remissions or remissions, so far as is known. But of course, we know nothing about the realization of the Mandal revenue, except when matters reach such a point that Government is compelled to interfere; and the Mandals themselves admit that the revenue has been realized very irregularly and with the greatest difficulty. The only events worthy of notice have been the terrible famines of 1860 and 1869, and the drought of 1877, already fully described. During the famine of 1860, the right of Government to suspend and remit revenue in the villages granted to the Mandals, which had been distinctly postulated by the Financial Commissioner and Lieutenant-Governor when the settlement was sanctioned in 1860, was discussed and finally affirmed.

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Survey of 1854.

Revenue history
since the Regular
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Early Karnal Assessments.

Taluk compared.	Mandal estates Other villages	No. of villages	Revenue paying areas.				Amount of assessment.			
			First Settlement, 1815-17.		Present State, 1870		First Settlement, 1815-17.	Reduced in 1818.	Reduced in 1824.	Reduced in 1870.
			Collection.	Exemption.	Collection.	Exemption.				
Muzaffar	Mandal estates	65	21,181	52,909	23,177	82,000	52,815	50,724	35,150	37,917
	Other villages	7	3,246	8,656	3,977	10,709	4,700	...	...	4,216
	Total	72	24,427	61,565	27,154	92,709	57,515	...	...	42,133
Rupia	Mandal estates	116	7,418	5,075	7,408	9,280	15,030	16,014	13,207	12,770
	Other villages	331	20,739	11,577	21,780	12,053	48,126	...	...	51,203
	Total	447	28,157	17,652	29,188	21,333	63,156	...	...	63,973
Bahawal	Mandal estates	15	16,108	11,352	15,402	6,902	26,008	29,129	29,176	29,771
	Other villages	17	14,124	10,087	17,142	9,101	27,588	...	...	30,002
	Total	32	30,232	21,439	32,544	16,003	53,596	...	...	59,773
Total	Mandal estates	224	52,600	418,819	61,377	102,931	191,000	100,901	80,387	80,608
	Other villages	369	37,246	20,379	42,294	37,603	63,816	...	...	75,112
	Total	593	89,846	439,198	103,671	140,534	254,816	...	...	155,720

The Settlement of 1872-80.

540. The instructions by which the Settlement Officer was to be guided in the assessment, were conveyed in Government Punjab No. 1613, dated 3rd November 1871. They laid down that the demand was "not to exceed the estimated value of half the net produce of an estate; or, in other words, half the share of the produce of an estate ordinarily receivable by the landlord, either in money or kind." They directed him to pay special attention to produce estimates; and they further ruled that he was to "take into consideration all circumstances directly or indirectly bearing upon the assessment, such as rent-rates where money rates exist, the habits and character of the people, the proximity of markets for the disposal of produce, the incidence of past seasons, the existence of profits from grazing, and the like. These and other considerations must be allowed their weight." (1) Finally, they laid down that, after sanction had been received to the rates and gross assessment proposal for each taluk, "full consideration must be given to the special circumstances of each estate in fixing the assessment to be ultimately adopted." The most satisfactory basis of the settlement would have been rent-rates, had such been forthcoming. But this rent at competition rates is almost unknown in the district. Accordingly, as the share of the produce ordinarily receivable in kind by the landlord is fairly well established, estimates of the gross produce of the land assumed a peculiar importance.

Mr. Ibbetson divided the tract into the five circles of Nardak, Karnal and Panipat Khadir, and Karnal and Panipat Bangar, for assessment purposes. To utilise the produce estimates for purposes of assessment, it was necessary to fix the share of the produce ordinarily receivable by the landlord, and further to fix prices which, applied to that share of the gross produce, would give the estimated rental. Rents have already been discussed in Chapter III (Section E). The proportions finally adopted were—

Nardak—	one-third.
Irrigated or manured	one-fourth.
Other land	
Other Circles—	one-third.
Irrigated	two-fifths.
Dry	

541. The tables on the next two pages give the results of Mr. Ibbetson's assessment. The rates used in previous settlements are given in full detail in his report. These sanctioned for his settlement were as shown in the margin per acre.

Rents at the assessment.

Taluk.	Panipat		Karnal.			
	Excess.	Khadir.	Nardak.	Bangar.	Khadir.	
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Irrigated	5 13 0	2 10 0	1 10 0	5 4 0	5 7 0	
Dry (Karnal)	1 4 0	1 8 0	1 10 0	1 1 0	1 4 0	
" (Panipat)	2 12 0	0 10 0	..	..	1 10 0	
Unirrigated	..	..	0 4 0	..	..
Unirrigated (Karnal)	..	..	..	1 4 0	..	
Unirrigated (Panipat)	1 13 0	..	..	..	..

(1) The same instructions were given in the case of the Karnal and Panipat Settlement.

Chapter V, B.

Land and Land Revenue.

Results of the assessment.

Statement showing Assessment and Rates of Incidence in Ryots.

	Assessment in Ryots.				Rates of Incidence per Acre.									
	Furqa Karsal.		Furqa Nandial.		Furqa Karsal.					Furqa Nandial.				
	Kardak.	Khaddi.	Rangar.	Khaddi.	Rangar.	Kardak.		Khaddi.		Rangar.		Khaddi.		Rangar.
						Chutia thar.	Chutia thar.	Chutia thar.	Chutia thar.	Chutia thar.	Chutia thar.	Chutia thar.	Chutia thar.	
Assessment of 1842-43, with revision	43,235	65,999	74,169	1,01,294	2,07,577	4,84,623	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Current demand 1857, with revision	47,298	68,660	87,618	1,09,837	2,20,016	4,90,837	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
New assessment, with revision	40,160	62,875	82,500	1,06,527	2,20,016	4,82,945	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Assessment of 1842-47	43,235	65,999	74,169	1,01,294	2,07,577	4,84,623	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Current demand of 1850	47,298	68,660	87,618	1,09,837	2,20,016	4,90,837	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
New assessment	40,160	62,875	82,500	1,06,527	2,20,016	4,82,945	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Revenue rates { Suggested } demand { Proposed }	33,495	51,835	63,111	1,21,117	2,47,209	5,01,157	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Provision estimate	31,805	50,512	62,007	1,18,427	2,40,823	4,93,572	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Result	31,805	50,512	62,007	1,18,427	2,40,823	4,93,572	1 11 7	0 7 1	2 6 0	3 6 0	3 11 0	0 11 0	2 10 4	
Percentage.	86.6	94.0	110.7	113.9	116.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
New on last assessment.	79.4	84.9	108.0	100.7	106.2	106.2	106.2	106.2	106.2	106.2	106.2	106.2	106.2	
New on current demand	83.2	95.0	110.9	109.4	105.3	105.3	105.3	105.3	105.3	105.3	105.3	105.3	105.3	
Assessment on previous rate of demand	80.7	91.2	112.4	109.2	104.4	104.4	104.4	104.4	104.4	104.4	104.4	104.4	104.4	
Assessment on previous rate of demand	101.6	100.2	109.8	97.1	88.1	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	
Total														1,00,000

Note: The new assessment range includes estimated owner's rates in following—

Kardak.	100
Kardak Khaddi	1,825
Do. Rangar	58,980
Paundal Khaddi	990
Do. Rangar	77,730
Total	1,00,000

Statement showing General Results of the Assessment in Ropar.

	MABAD TAHSIL.			OTHER VILLAGES.			WHOLE TAHSIL.		
	Revenue assigned to Mandals.	Revenue assigned to others.	Revenue not assigned.	Revenue assigned.	Revenue not assigned.	Revenue assigned.	Revenue not assigned.	Total Revenue.	
Assessed revenue	57,042 8 0	3,625 8 0	166 0 0	53,104 8 0	3,427 8 0	53,574 8 0	3,427 8 0	4,36,321 0 0	
Deduct from of landlords and chief lands. non- revenue.	492 8 0	58 0 0	1 0 0	449 0 0	4,200 8 0	1,381 8 0	4,265 2 0	7,580 0 0	
Defect quit-rent	10,000 0 0	120 0 0	...	2,021 7 0	...	13,217 7 0	...	13,217 7 0	
Balance	46,143 0 0	2,368 8 0	85 0 0	29,634 1 0	9,265 4 0	79,675 0 0	9,693 0 0	4,16,714 0 0	
Land quit-rent	120 0 0	...	10,000 0 0	...	3,161 7 0	126 0 0	43,091 7 0	15,215 7 0	
Settled revenue	66,200 0 0	3,368 8 0	10,000 0 0	22,364 1 0	11,269 2 0	79,201 9 0	1,43,732 7 0	4,25,930 0 0	
And estimated owners' rates*	...	...	14,505 0 0	...	80,238 0 0	...	1,03,800 0 0	1,03,800 0 0
Total Income	46,263 0 0	3,368 8 0	94,005 0 0	29,664 1 0	14,259 6 0	79,201 9 0	1,43,560 7 0	5,20,710 0 0	

* The owners' rates of the Mandal and certain other revenue-free villages have been assigned to the revenue grantors.

Chapter V, H.
Land and Land Revenue.

Results of the Assessment.

Chapter V, B.
Land and Land
Revenue.

Revenue of the
 assessment. The
 Nardak.

The following pages, taken from the report, from a comprehensive description of the assessment :—

342. We have in the Nardak a high arid tract of scanty rainfall, held by a population which largely supplements agriculture by cattle farming, and having only 27 per cent. of its area cultivated. Of the cultivation, 9 per cent. is irrigated by wells, while 3 per cent. is protected by, and 14 per cent. ordinarily watered from, the canal. Only 5 per cent. is manured. Nine per cent. of the cultivation is held by alien landlords, 60 per cent. by Rajputs and Gujars, and only 31 per cent. by Jats and Rors. These last are chiefly found in the fringing villages of the tract, which, though the soil is distinctly inferior, have water at a moderate depth. These villages constitute only a sixth of the total area, but comprise two-sevenths of the cultivation, of which 32 per cent. is irrigated, including all the canal land. The remainder of the tract constituting the Nardak proper, and principally held by Rajputs, has only 5 per cent. of its cultivation irrigated, water being at a depth of 90 to 140 feet; the crops are therefore entirely dependent upon an uncertain rainfall averaging less than 18 inches, while the great stiffness of the soil enhances the eminently precarious nature of the yield. Thus Mr. Ibbetson stated that out of 40 crops, 16 had failed almost completely. Ninety-two per cent. of the whole cultivated area is under inferior sorts of grain, the yield of which, on the average of a number of years, is only sufficient for the subsistence of not quite two-thirds of the whole village population. At least 15 per cent. of the cultivation is in the hands of tenants paying no rent to the owners, while strangers own or hold in mortgage 9 per cent. more. There is an ample supply of cultivators; and agricultural appliances are, considering the inferior nature of the cultivation, fairly equal, over the whole tract, to the area under the plough; though the fringing villages have been much crippled in this respect by the cattle epidemic of 1869. The existing cultivation, if not supplemented by the produce of cattle, would be quite unequal to the needs of the population; but, though all the low-lying ground is already cultivated, there is ample room for expansion in the higher and drier soils.

The circle was held till 1840 on grain collections; an assessment was then made which was never realised; and the reductions effected in 1852 being insufficient, the greater part of it was held in direct management, or rather mismanagement, till 1856, when a reduction of more than 30 per cent. was made in the demand. Since then the revenue has been, except in years of actual famine, collected, though with great difficulty and irregularity. Early figures afford no trustworthy basis for a comparison; but it is probable that, setting aside the extraordinary seasons of 1873-76, cultivation has not materially increased since 1847; while the wells have decreased in number by 28 per cent. on the whole, and 42 per cent. in the Nardak proper. Meanwhile the population is multiplying rapidly. The cost of production has increased largely; but while the average yield has probably not sensibly altered,

prices have risen by a quarter. The people are still, as Mr. Lawrence described them to be in 1843, "the poorest in the district;" their herds, which form their mainstay in bad seasons, were seriously diminished by the cattle epidemic of 1869, and were recovering greatly when Mr. Dibbetsen assessed the tract; most of the cultivators are impoverished; there is no hope of consideration being ever shown them by the Mandals, and therefore no hope of any consideration except when distress rises to a pitch which justifies the district officials in interfering. It was very necessary to give the Nardik villages very general relief in the shape of reduction of assessment.

In this circle a reduction of 10·3 per cent. was given in the current demand, which additional cesses, amounting to 12 per cent. on the revenue imposed since last settlement, reduced to 16·3 per cent. on the whole burden as it stood in 1876, and to 17·5 on that of 1856. The demand as imposed forms 101·6 per cent. of the assessment at auctioned rates, and 193·1 and 197·7 per cent. of those given by rent and produce estimates respectively. The relief afforded by redistribution of the demand over the individual villages, was perhaps even greater than that afforded by the general reduction, and was even more urgently needed.

343. In Panipat Khadir we have a tract of which 59 per cent. is under cultivation. The soil is for the most part fertile, especially when carefully tilled, but a considerable portion is very sandy and poor, and 24 per cent. is exposed to flooding by the river. Its lightness and the nearness of the water reduce the labour of agriculture; and 74 per cent. of the cultivation is protected from draught by canals and permanent wells, while 11 per cent. is partially protected by temporary wells; the crops are, however, exceedingly liable to damage by excess of moisture; 32 per cent. of the cultivation is insured. The mass of the cultivation is carried on by the proprietors themselves, but at least 14 per cent. of it is in the hands of very small tenants who pay no rent to the owners; and strangers own or hold in mortgage 44 per cent. of it. Thirty-eight per cent. of the cultivated area is in the hands of the best, and 33 per cent. in those of the worst cultivators in India; while the remainder is with castes but little better than the Rajars. Agricultural appliances are fairly equal, and cultivators are as equal, to the area under the plough; but the cattle are not sufficient to enable full use to be made of the existing means of irrigation. The population, especially in Jat villages, is proportionately large, even to the verge of distress, and the subdivision of holdings is excessive.

After cruel over-assessment which impoverished the Jats and drove away the others, gradual but insufficient relief was followed at the end of 25 years of suffering by an assessment which, though light only by comparison, was fairly distributed, and must be said to have worked distinctly well. During 25 years of this assessment the people have been free from distress, except such as has been caused by famine; the cultivated area has increased by 2 per cent.,

Chapter V. B

Land and Land Revenue

Revenue of the
assessment. 1876
Nardik.

Revenue of the assess-
ment. Panipat
Khadir.

Chapter V. B.

Land and Land Revenue.

Revenue of the
Assessment, Principal
Estate.

and has in a large number of villages, and notably in the best ones, almost reached the limit of profitable expansion; while the population is rapidly increasing. The cost of production has increased largely, and the average yield must have somewhat decreased; but prices have risen by a quarter, and agricultural appliances have fully kept pace with the cultivation. The people of the tract may be said, in general, to be prosperous, though not remarkably so; but many of the Gujar villages, and some Jat ones, in which sufficient reduction was not given in 1842, required relief, though not in any large degree. Some of the Gujar and many of the Jat villages naturally had their demand enhanced, though, on the whole, increase in the assessment was smaller than that in the cultivation; and in some villages, where the advances made were very great, it was thought inadvisable to realise the full demand at once. In this circle the demand was enhanced by 2·4 per cent., while additional cesses imposed raised the total increase to 6·4 per cent. on the burden of 1842, and to 11·9 per cent. on that of last settlement. The new assessment is 69·4 per cent. of that given by Mr. Libatson's sanctioned rates, and 2·6 per cent. in excess of rent, and 9·7 per cent. below his produce estimates. At the same time the incidence of the burden was redistributed so as to afford much needed relief to many of the estates which had, from various reasons, become impoverished.

Revenue of the
Assessment, Kanai
Estate.

344. This tract is, in many respects, the exact antithesis of the Nardak. The soil in general is not infertile, and well repays careful cultivation; though, without it, its yield is small, and a considerable portion of it is always very sandy and poor. Eleven per cent. of it is liable to most destructive inundation by the river, while the whole northern corner has been seriously damaged by red and swamp from the canal and its escape—avuls which are slowly increasing. The lightness of the soil and the nearness of water reduce the labour of agriculture to a minimum. Of the cultivation 61 per cent. is irrigated from permanent wells, which, however, can only water some 72 per cent. of this area in any one year; temporary wells partly protect 4 per cent. more, and 22 per cent. of the whole is manured. Tenants hold, at least, 23 per cent. of the cultivation, most of whom pay only a nominal rent to the owners; while strangers own or hold in mortgage 9 per cent. more. Only 13 per cent. of the cultivated area is in the hands of good cultivators, while the remainder is held by quite the worst in India, 6 per cent. of the owners obtaining from reduced labour of every sort. Appliances and cultivators alike are barely equal to the needs of the cultivation, being abundant in the Jat and Rai villages, but in marked defect in the others; the appliances for irrigation also are specially inefficient. The population, especially in Jat villages, is disproportionately large. The subdivision of holdings caused by over-population is enhanced by the adhesion to the Muhammadan Law of inheritance of a considerable Sâdîl community.

About a quarter of the tract was held in direct management by the Maudslays till the settlement of 1847, the remainder suffered for 25 years cruel over-assessment, and the relief afforded in 1842 was found to be insufficient. Throughout the whole tract the demand had had to be reduced considerably since settlement. Meanwhile, though the cultivation had increased by some 5 per cent., the masonry wells had slightly diminished in number, while 6 per cent. of the irrigation, the most important element in Khandi cultivation, had deteriorated from permanent to temporary. The cost of production had increased largely, and the average yield must have somewhat decreased, but prices had risen by a quarter since settlement. The Jat and Ror villages were on the whole prosperous, except where the pressure of population was unusually great, but some of the Taga, many of the Rajput, and all the Saiyid villages, were greatly impoverished, and sadly needed relief. In this circle a reduction of 87 per cent. on the current demand was given, which the imposition of new cesses reduced to a relief of Rs. 4-4 per cent. on the total burden. The demand so increased formed 110·5 per cent. of that given by the sanctioned rates, and 99·7 and 102·8 per cent. respectively of the rent and produce estimates. A re-distribution of the demand was urgently called for, and, while in many prosperous villages the assessment was raised, much-needed relief was granted to a still greater number.

315. In Panipat Bangar we have a tract of which 52½ per cent. was cultivated, 1½ per cent. had been lately thrown out of cultivation, because it is either absolutely uncultivable or only cultivable in an unusually dry year, 29 per cent. was positively barren, and the remaining 17 per cent., which was shown as cultivable, included a good deal of land which is really not worth the labour of tillage. The soil is naturally most fertile, and, when not exhausted by over-cropping and not interrupted by external causes, yields crops of the most splendid luxuriance. But the faulty alignment of the canal and its distributaries and the excessive irrigation practised had water-logged the country, and called into existence two terrible evils—saline efflorescence and swamp or *sataga*—which had not only rendered absolutely barren thousands of cultivated acres, but had seriously diminished the fertility of much of the remaining cultivation, while a system of rainless over-cropping, partly due to the decrease in cultivation, and partly owing to the system of assessment adopted, had unhindered the deterioration. Seventy-seven per cent. was protected from drought by an irrigation which, though often uncertain in supply, yet could never altogether fail, and which was obtained with little or no labour and at a very moderate cost: twenty-one per cent. was manured. More than seven per cent. of the cultivation was in the hands of the *Shikmors*, and was cultivated by tenants at a rack rent, usually of the most cruel nature. Of the remainder the greater part was cultivated by the owners themselves, but 6 per cent. at the very least was held by tenants in excessively small holdings, while strangers owned or held

Chapter V, B

Land and Land Revenue

Summary of the assessment. Karnal District.

Summary of assessment. Panipat Bangar.

* Including villages the farms of which have now been sold.

Chapter V. B. Land and Land Revenue.

Revenue of the
Settlement. Punjab
Gazette.

In mortgage 34 per cent. Fifty-four per cent. of the cultivation was owned by Jats, and 16 per cent. by Rors, who are almost as good: the Skinners owned 7 per cent., and the remaining 21 per cent. was held by Gijars, Hanshars, and other equally bad cultivators. The cultivators were on the whole equal to the area under the plough; but the agricultural appliances were not only insufficient, but were badly distributed, being most wantonly where most needed. The population in the injured villages was excessive, and was being rapidly decreased by emigration, while the cultivated area was already largely supplemented by land held in a neighbouring native state.

The early assessments were exorbitant, but the spread of canal irrigation and increase of cultivation were attended by a gradual relaxation of the demand; and in 1842, when canal irrigation had nearly reached its maximum, and the tract had, as Mr. Shereef says, "obtained its highest point of prosperity," a very moderate assessment seemed to secure it from the possibility of distress. But from 1850 up till settlement the history of a very large portion of the tract had been one of deadly sickness, decreasing cultivation, and diminishing fertility; and the relief afforded had been tardy and inefficient. While on the whole the cultivation had remained stationary, an increase in some villages of 16 per cent. had been counterbalanced by a loss of as much as 25 per cent. in many others; the population had throughout advanced upon the cultivated area, and in a large portion expansion was impossible; and further diminution of cultivation almost a matter of certainty. The cost of production had increased largely, and the cost of canal irrigation enormously, while the average yield had diminished, and prices had only risen by a quarter. While the high villages which had not suffered, were in the most prosperous condition, the estates which had been most severely stricken by swamp and *rob* were in the most pitiable state; and the villages of the tract included examples of stages intermediate between the two extremes.

In this circle the demand was increased by 1·4 per cent., while additional cesses raised the enhancement to 5·8 per cent. on the total burden of 1876, and to 6·2 per cent. on that of last Settlement. The demand was 22·1 per cent. of that given by sanctioned rates, and 55·6 and 54·7 per cent. respectively of the rent and produce estimates. While many of the fine villages had their demand very considerably enhanced, liberal relief was granted to the injured villages. And especially the separation of a portion of the demand in the form of owner's rates, for the first time, rendered it possible for those villages to reduce their irrigation in which that irrigation was most extensive, and its excessive nature most deleterious. It is probable that this reduction of irrigation will somewhat reduce the revenue of the circle below the estimate; but the water thus set free will be available in the Nardak or elsewhere, where it will bring in the same revenue as it would have done

Chapter V. B.
Land and Land
Revenue.

Estimated average
rent of Karnal Man-
sars.

in this circle; while its transfer from a swamp-stricken to a thirsty tract will be an unmix'd benefit to both.

Of Karnal Banger 47½ per cent. was cultivated, 1½ per cent. was tottering on the verge of barrenness, 27 per cent. was immediately barren, while of the 24 per cent. entered as pasture, much was really not worth the labour of tillage. The soil, in all the lower parts of the tract, is naturally fertile, and, when safely treated and not deteriorated by external causes, yields crops as fine as could be desired. But the terrible evils of cycl and swamp, which have thrown hundreds of acres out of cultivation, have forced the people to replace the lost, where possible, by bringing under the plough high and tracts characterised by most of the features of *Nardak* cultivation; and, where this was impossible, to exhaust their remaining holds by a system of the most ruinous over-cropping. These evils were ever increasing; and if they were of later date in Karnal than in Panipat they were in one respect more injurious, inasmuch as they more often held out delusive hopes, which led to much fruitless expenditure of seed and labour. Seventy per cent. of the cultivation was protected from drought by a irrigation which, though often uncertain in supply, yet never altogether failed, and was obtained with little labour and at a very moderate cost: 22 per cent. was manured. Tendals paying no rent to the owners held at least 24 per cent. of the cultivation, while strangers owned or held in mortgage 6 per cent. more; Jats and Rors cultivated 34 per cent., the remainder being held by Rajputs and the like. The cultivators were on the whole equal to the area under the plough; but the agricultural appliances were insufficient, while both were badly distributed, being most scanty where most needed. The population in the injured villages was excessive, and was already being decreased by emigration chiefly, at present, of the non-cultivating classes.

More than a third of the tract was held by the *Mandals* in direct management till 1847, when it was assessed fairly enough; as the remainder also had been, after a period of exorbitant over-assessment, in 1842. But from 1856 till settlement, the history of almost every village in the tract had been one of deadly sickness, increase of swamp, and diminution of fertility. On the whole, cultivation had increased by 4 per cent., but the area had been largely kept up by the substitution of bad land for good; while the irrigation, which had increased still faster, had, with the exception of three villages, mainly extended where it was least wanted. Nine villages had lost 29 per cent. of their whole cultivation; eight more had lost 14 per cent.; increase had taken place in seven villages only; population had throughout gained upon the cultivated area; while not only was expansion impossible in those villages in which it was most needed, but it appeared to the Settlement officer that the productive area would contract year by year. The cost of production had increased largely, and the cost of canal irrigation enormously, while the average yield had very

Chapter V, B Land and Land Revenue

Revenue of areas
under Canal Irriga-
tion.

greatly diminished, and prices had only risen by a quarter. The villages may be classified as were classified those of Panipat and it is enough to say that while the first class included four villages only, and one of these over peopled, the third and worst class comprised most of the outside, if not most of the cultivation, in the circle. In the villages where progress had been made, it was impossible to enhance the demand in anything like the same proportion, as almost the whole increase in cultivation was confined to two villages which cultivated 7,905 acres against 4,270 at Settlement; and it was evident that their assessment could not be doubled.

In this circle the demand was enhanced by 12·4 per cent., an increase which 12 per cent. of additional comes imposed since 1847, raised to 18·9 per cent. on the burden of 1874, and to 19·7 on that of last Settlement. This demand was 106·8 of the demand given by the sanctioned rates, and 102·9 and 103·5 per cent. of Mr. Dabston's rent and produce estimates respectively. The detailed assessment has conferred the same boon in this circle as in Panipat Raigari; but the benefit of the separation of the owner's rates was even more valuable here than in that circle, in proportion as the swamp was more extensive.

The owner's rate
of water

§47. Up to the revision of settlement, the canal irrigated land had been assessed exactly like any other land, a full assessment being realised year by year. This led to over-irrigation, and at the revision the owner's rate system was introduced, by which a portion of the revenue takes the form of a rate, called the owner's rate, which is realised in any year only on land irrigated from the canal in that year. After much discussion it was decided that this rate should, in the Western Jammu Canal, be fixed at half the occupier's rates, or rates charged by the Canal Department for the water they supply. The Canal Act under which these rates were imposed, had declared that they should not exceed the assessment leviable on the increase in value of the land due to canal irrigation, and an impression had been created that the whole assessment thus leviable was to take the form of owner's rates, the remainder or fixed assessment being assessed on the land in its dry aspect, and payable from it without any irrigation whatever. But the owner's rates, being fixed by Government could not possibly represent an assessment the amount of which must necessarily vary with the circumstances of each village. It became necessary, in fact, "first to calculate the average occupier's rate, secondly to deduct half of this from the gross assessment calculated in the usual way, and thirdly to announce what remained after this deduction was made as the true ordinary or fixed assessment. The fixed assessment is thus made a sort of residuum from the owner's rate, and must of course in some cases fail to be in reality what it purports to be." The subject of the nature of the fixed "dry assessment" in canal irrigated estates is one of special importance in Kanai. A full discussion

of it will be found in paras. 746-749 of Mr. Ibbitson's Settlement Report.

348. As so large a portion of the fixed demand is so often an assessment on irrigation, Mr. Ibbitson in accordance with the directions of the Financial Commissioner carefully reviewed his assessment of each village of the canal tract, estimated roughly how much of the fixed demand should be considered to be assessed on the area then irrigated, tabulated this assessment, its incidence upon the canal area, the area shown as canal irrigated, and the average past irrigation, and classified the villages according as reduction of irrigation might be made to a greater or less extent without entailing reduction of demand. The general result was that in 23 villages the fixed demand could be paid without irrigation at all; in 43 more, irrigation might be very considerably, and in 13 more, less largely circumscribed without necessitating revision of assessment; in 21 more any very material reduction of irrigation would call for corresponding relief; while in the remaining 36 the fixed demand was so high that it could not be paid in full unless the supply of water was kept up, practically speaking, to the existing standard.

"Under these circumstances the Financial Commissioner suggested that it might be well to settle the canal tract for 15 years only. On general grounds, the shortening the term of settlement was of course objectionable, if it could be avoided, and the Government finally directed that the term of the settlement should be for 30 years; but that Government should reserve direction to revise at the end of each five-yearly period the assessment of those villages to which the fixed demand fell short of the true dry assessment of the village. Mr. Ibbitson had endeavoured so to frame his assessments that in no village should the fixed demand fall below a moderate dry assessment. But when re-considering the assessment of such canal villages in connection with the question to be discussed presently of future reduction of canal irrigation, he selected the five villages of Buginpur, Bar, and Karna in taluk Karnal, and Bahel and Wairpur Tiana in taluk Panipat, and inserted in their administration papers a clause securing to Government the power of five-yearly revision. They are all swampy villages of the most aggravated description, in which the cultivators have been reduced to abject poverty by injury from the canal unaccompanied by sufficient relief, and in assessing them Mr. Ibbitson had been obliged to consider what they could pay in their abnormally depressed condition, while leaving room for them to recover themselves. He felt himself compelled to impose a very moderate fixed demand, but he thought it was almost certain that they would improve rapidly under a moderate assessment, and especially if, as was probable, the enlargement of the canal relieved them of their swamps; and that their assessment was lower in relation to their mere physical capacity than that of any other villages in the tract."

The order that these villages should only be assessed for five years was overlooked, but the demand has been raised from Rs. 2,530 to Rs. 3,370, with effect from Rabi 1891. The revised assessment will remain in force for the rest of the term of Mr. Ibbitson's settlement.

Chapter V, B.

Land and Land Revenue.

Five-yearly revision assessment in certain villages.

Chapter V, B.

Land and Land Revenue.

Assignment of assigned revenue.

353. At first no sort of settlement was made of any land of which the revenue was assigned, the assignees being left to collect rent from the owners. So long as the Government practically took the whole rent in the shape of revenue, this omission was of no importance; in fact, the owner of such land was better off than he who owned land assessed to Government revenue, for the former paid a demand varying with the seasons, the latter a fixed demand of extreme severity. But, as the Government revenue became gradually so limited as to leave a margin of profit for the owner, attention was attracted to the fact that unless we interfered between the owner and assignee so as to secure to the former the same margin of profit which he would have enjoyed had the revenue of his land not been assigned, we were doing him an injustice, and conferring on the assignee larger rights than we claimed for ourselves and therefore larger than we had it in our power to alienate. This view appears to have been first authoritatively accepted for this part of India in 1830, when the Sadr Board pointed out that "where the assignment had been made by the British Government; it could have had no intention to inflict injury on all the resident proprietors of the *pargana*, or to compromise the rights, the maintenance of which had been pledged to them in common with their fellows throughout the country by Regulation XXV of 1803; and that Government had always declared that in granting *jagirs* or other lands they merely proposed to assign away their own revenue, and not the rights of the people. That Government would also appear, though somewhat tardily, to have at last received the conviction that the only way in which the ruling power could do its duty and secure the rights of the proprietors in such cases was to come forward and make similar arrangements on behalf of the assignees of these revenue-free holdings as it makes with communities paying revenue to Government."

But the Board went further than this, and extended the same principle to all assignments including such as had been granted under native governments, and only confirmed by the British. It remarked—

"The same rule appears to the Board to hold good as regards all free holdings, and, wherever a resident occupant community are found in possession of land assigned as rent free, they should, as provided by section 17 Regulation VII of 1822, have similar terms made in their behalf with the Government assignee as the people of the neighbourhood obtain directly from Government."

The Lieutenant-Governor, N. W. P. accepted these principles in his No. 1053 of 9th August 1839; he pointed out several instances in which they had already been acted upon, and remarked that he "believed that every rent free holding, small and great, had been already subjected to this process in the districts in which the revised Settlements had been concluded." Upon this the Board remarked, that "the principle had thus been declared applicable to every rent-free holding, small and great," called for a report at once upon the larger holdings, and

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Provisional Settlements of assigned revenue.

remarked that "the smaller holdings would be dealt with as the investigation into revenue-free tenures was completed for each district." The principle was embodied in § 117 of the Directions to Settlement Officers, and the Settlement of the Mandal tract was effected in accordance with it in 1847.

354. In the Settlement of 1843, the Settlement Officer proposed to settle villages of which the revenue had been assigned, together with the Government villages of *pargana* Panipat. But he was directed by the Board not to interfere, as it was "not the wish of Government that sub-settlement should be made with the proprietary communities in *majhi* estates." Accordingly, no records were prepared, and the assignees continued to receive rent till 1850. The omission to make a proper Settlement was then brought by petition to the notice of Government which called for a report, and remarked that "if the rights in confirmed revenue-free villages in the Delhi division have hitherto remained undisturbed, it is time that this state of things should cease." The Board reported on the question, which in that tract concerned only grants made by former governments and confirmed by us. The Senior Member held strongly that the native government which had made the grant had put the assignee in the position of landlord with the power to collect rents; and that it was unjust to "form a theory" that the Government had no right to alienate the rights of the owner and to reverse an arrangement of long standing. The Junior Member pointed out that what was proposed to be done was to ascertain and record existing rights, and that the Senior Member's objection did not touch the advisability of this process. The Lieutenant-Governor agreed with the Junior Member and directed all existing rights in revenue-free holdings to be investigated and adjusted. Accordingly between 1850 and 1852, records were prepared and summary settlements made for all lands of which the revenue was assigned. In some few cases the demand thus fixed was so high that the owners preferred to continue the old terms; but as a rule, the settlements then made were acted upon up to the recent revision.

Unfortunately, too, the records were not prepared as carefully as they should have been, and the record of ownership was sometimes indefinite or entirely wanting. In some of them came the revenue assignees of plots of land locally called *miti* to distinguish them from assignments of villages or shares of villages, claimed ownership in Mr. Isheram's Settlement. But their claim was entirely without foundation. Mr. Hugh Fraser wrote:—

"The *miti* in this district have not on any occasion that I am aware of laid claim to any proprietary right in the soil. All they contend for is that share of the produce which would belong to the State if the lands had not been alienated. This is the opinion of every *miti* that I have ever spoken to on the subject." Again:—In this district the *miti*'s rights in soil are only distinct from, but necessarily ever belongs to the person on whom has been bestowed the

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Land and Land Revenue.

Previous Settlements of assigned revenue.

Assessment of jagir lands of pergunas Indri and Kothal Kaithal.

Government share of the produce. From among the hundreds of settlements which I have had occasion to investigate during my residence in this District, I can only recollect one instance in which the natives claimed the *biswahdars* *huk*; and in that case a *Hakikat* *khata* was forthcoming.

355. The jagirdars of Indri and Kaithal are not properly speaking assignees of Government revenue, but mediatized chiefs whom we took under our protection, in return for which they agreed to furnish certain military aid. The obligation to do so was afterwards commuted into a fixed money payment, calculated usually at two annas per rupee on the revenue of their *jagirs*. Until the regular settlement the jagirdars collected their revenues by levying *batai* and *sabti* rates. It was at first proposed only to assess *khata* villages, and merely to draw up rules of practice (*dastur-ul-amal*) for their estates, unless either the *jagirdar* or the *amin*dars demanded a cash assessment. But after a lengthy correspondence it was decided that all *jagir* estates must be put under assessment. When the regular settlement broke down, the benefit of the revision effected was at first denied to the landowners in *jagir* villages, who were given the option of paying *batai* to the *jagirdars*, if they considered the cash assessment oppressive. Some villages in the Karnal Khadir belonging to the Kunjpara *jagir* paid by *batai* up to the recent revision of settlement.

Government lands, forests, &c.

356. Table No. XVII shows the area and income of Government estates; while Table No. XIX shows the area of land acquired by Government for public purposes. The encroachment lands have already been discussed in para. 172 and the settlement of the leased estates in paras. 157-164.

Government rights in canal land in Panipat and pergunas Karnal.

357. Mr. Ishleton thus describes the action taken at his Settlement regarding Government rights in land occupied for the old Western Jumna Canal, a burning question in the Karnal district:—

"Government, in the separate Departments, is in possession of a great deal of land situated in the tract, occupied chiefly by the canal channels and distributaries. But the question of ownership was more difficult. All the canal land, I think without a single exception, had been entered as property either of the village or of the individuals in the old record. Where land had been taken up and paid for by Government there was no dispute, or in the very rare cases when there was, the file was forthcoming, as no Karnal records had been destroyed in the mutiny. As regards the old distributaries, too, it was admitted that the people had made them themselves on their own land—a fact specifically stated by the Superintendent of Canals in his No. 324, of 5th December 1847, to Commissioners, Delhi, as a ground for refusing remission of revenue on the land so occupied,—and that though Government had, when the water rates were raised, taken over the arrangements for their clearance, yet it had acquired only possession, and not property in them. But the Canal Department claimed property in the old canal bed and tanks, on the score of long possession, of inheritance from

the preceding Government and of what was described in 1827 by Captain Chivers as "a long existing custom, authorised when first set on foot, though the date cannot be traced, affirming the right of Government as land possessor, to the occupation of the ancient line of water-course, declaring its bounds to extend to 10 fathoms from the edge of the banks; and applying equally to the line of canal, and the line of outfall and escape from the canal." They claim the people as most anxious to be satisfied and we could not listen to it in the face of section 10 of the Land Revenue Act. In his No. 6301 of 15th October 1873, the Financial Commissioner directed us to ask the people, where they refused to admit the proprietary title of Government, whether they objected to the entry of a Government right of occupancy; and on our doing so, the villagers readily consented in every single instance to an entry to the effect that Government was entitled to hold the land so long as it was needed for canal purposes. This entry was accordingly made, and its meaning defined by a clause in the administration paper. In his No. 1261, of 3rd March 1879, and subsequent correspondence, the Financial Commissioner ruled that land for which no compensation had been paid was held by Government only for so long as it was needed; and that the original owners retained the reversionary right when this ceased to be the case; this being precisely the view urged all along by the people. He directed that—(1) land for which compensation had been made should be entered as Government property; (2) where no compensation had been made, the entry already described was sufficient; (3) and that even where the people had entered such land as Government property, their reversionary right should be recorded. Compensation was defined to include exchange of land, as well as cash payment; and when land had been taken and payment made for the cultivated parts only, it was ruled that the payment covered the whole."

In 1886 the Financial Commissioner issued the following orders as to land on the old canal which is no longer required by the Canal Department:—

- (a) "that both below and above Indri, all land no longer now required for canal purposes be relinquished; the canal officers deciding what land can properly be so treated, and furnishing to the Deputy Commissioner his lists and plans thereof, but leaving it to the Deputy Commissioner to complete the relinquishment under the procedure prescribed in that behalf."
- (b) "that similar relinquishments be continued hereafter in respect of any other land, the further occupation of which may at any time appear to be unnecessary."

The Deputy Commissioner's report has not yet been submitted.

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Land and Land Revenue.

Government rights in canal land in Bahawalpur and parts of Karnal.

CHAPTER VI.

TOWNS & MUNICIPALITIES.

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Towns and
Municipalities.
General statistics of
Towns.

355. At the Census of 1881, all places possessing more than 5,000 inhabitants, all municipalities, and all head-quarters of districts and military posts were classed as towns. Under this rule the following places were returned as the towns of the Karnal district:—

Total	Town	Persons.	Males	Females
Karnal	Karnal	23,123	11,024	10,607
	Kanjura	1,723	835	846
Panipat	Panipat	25,072	12,451	12,591
	Kaithal	14,744	7,302	7,442
Kaithal	Siwan	5,717	2,907	2,725
	Bundi	4,977	2,570	2,404
	Palsana	5,466	2,955	1,473

The distribution by religion of the population of these towns and the number of houses in each are shown in Table No. XLIII, while further particulars will be found in the Census Report in Table No. XIX and its Appendix and Table No. XX. The remainder of this chapter consists of a detailed description of each town, with a brief notice of its history, the increase and decrease of its population, commerce, manufactures, municipal government, institutions, and public building; and statistics of births and deaths, trade and manufactures, wherever figures are available.

Towns of Karnal.

356. Karnal is a municipal town and the administrative head-quarters of the district. It lies in latitude $29^{\circ} 42' 17''$ north (longitude $77^{\circ} 1' 45''$ east. Its population is 23,123 souls consisting of 15,214 Hindus, 110 Sikhs, 213 Jains, 7,550 Mussalmans, 45 others. It stands upon comparatively high ground, just above the old bank of the Jamuna overlooking the Khadir or lowland tract. The river now flows 7 miles away to the east, and the old Western Jamuna Canal passes just beneath the city.

The town is enclosed by an old wall, immediately outside of which runs a metalled road, and has ten gates, of which the Nawab, Kulandar, and Ghazni to the east, and the Jandla to the west, are the principal ones. To the west of the town lies an extensive suburb, which was the *side burr* of the old cantonment. To the north about a mile from the town lie the

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Town of Karnal

well-lit and public offices, on the site of the old cantonment. The streets of the town are all well paved or metalled, but almost all of them are narrow and crooked. The drainage and indeed the sanitary arrangements inside the town are fairly good. The principal buildings of antiquarian interest are—(1) Kalandar Sahib's tomb, situated just outside and to the east of the town. The grave is made of marble, and decorated with sculpture. This tomb was built by Ghias-ud-din, Emperor of Delhi, to the memory of Bakh Kalandar (para. 127). The inhabitants of Panipat, however, deny that this Sahib was buried at Karnal, and they have a large tomb also to his memory in their town. Within the enclosure are a mosque and a reservoir with fountain built by the Emperor Alamgir, and outside, a kittle drum balcony. (2) Cantonment Church tower.—This is a fine old massive tower, and can be seen at the distance of several miles as it is 100 feet in height. The body of the church was dismantled after the Cantonment of Karnal was abandoned in 1841 on account of its unhealthiness from the swamps of the Western Jamna Canal in its vicinity; the materials of the church were removed to Ambala. The tower is surmounted by a large ornamental cross, and inside the tower are several memorial tablets, which were removed from the walls of the church.

There are two cemeteries of the late cantonment with crowded tombs bearing evidence to the terrible mortality of the troops from the ravages of swamp-created malarial fevers.

The fort of Karnal once belonged to Bhag Singh, former Raja of Jindh. It was taken from him by the Maharajas, and eventually came into the possession of Sardar Gurdit Singh of Ludwa. It was captured by the English in 1805 and made over by General Ochterlony to Muhammad Khan (Mansab), grandfather of Azmat Ali Khan, the present Nawab of Karnal. On Karnal being formed into a British cantonment, it was decided by the authorities to take over the fort, suitable compensation being made to the Nawab. It was finally selected as a residence for Dost Muhammad Khan, Amir of Kabul, in which he was detained for about six months, on his way to Calcutta. The fort was used as a jail, as quarters for Native Cavalry, and as a poor-house. In 1862, it was made over to the Education Department when the district school was removed into it from the city.

The city of Karnal is said to have been founded by Raja Karnal, a General on the side of the Kamravs in the war of the Mahabharata. It would seem to have been a place of but little importance in early historical times; for while Panipat, Kaithal, and Thanesar are mentioned even by the early Arab geographers, and these towns and Samana and Sonapat are commonly referred to by the early historians, Karnal is first mentioned towards the end of the Pathan dynasty. The battle of Karnal has already been described in Chapter II, as indeed has the history of the

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town under the Sikhs. As a town, it owes much of its importance to Raja Gajpat Singh of Jindh who built the wall and fort, and under whose rule it increased considerably in size.

Jayaj most describes it in 1831 A.D., in the following words—

"In the interior, an infamous sink, a heap of every sort of uncleanness. Amongst heaps of dung, brick-rubbish, and concourse of beasts are winding paths scarcely passable for horses, and having many and there a few miserable huts. I have seen nothing so bad in India; and it is fair to mention that amongst the natives its stink is proverbial."

This is very far from applying to the present state of the town, which is internally well drained and clean. The inhabitants are Jats, Rains, Bors, and the ordinary miscellaneous mixture of Brahmans, Banias, Mussulmans, and menials which always collects in a city. In the *andh bazar* live many Purbias and Khutiks, &c., who came here with the troops, and used to find employment on the stud lands.

The city of Karnal had the very worst possible reputation for unhealthiness, and not undeservedly. The old canal cut off a great loop of the Khadir to the west of the city, while to the south lies a great natural bog. The drainage of the Bangar ran over the bank, and, held up by the canal and the Grand Trunk Road, formed a huge swamp right under the city; while rice cultivation is carried on up to the very walls. When, after the increase of irrigation following upon the famine of 1833, the carrying capacity of the canal was increased to the utmost, the swamps thus formed became pestilential to a degree; and the sickness in cantonments became so great that the troops were moved to Ambala about 1844, and the cantonments finally abandoned. In 1844, rice cultivation near the city was prohibited, and remained forbidden for many years, but has since been resumed. And canal irrigation was temporarily stopped in the neighbourhood of Karnal on sanitary grounds.

The filling up of the ditch which formerly surrounded the town, and the substitution of a masonry drain, has done much to improve its sanitation. The Karnal tank, situate at the north of the town, named after Raja Karn, its founder, is held in much veneration by the Hindu community. This tank was believed to add to the unhealthiness of the town by its frequent overflow. This has in a great measure been remedied by deeper excavation, while its margin has been embellished with masonry steps. The old canal has ceased to run and the new canal passes through high land a mile or two to the west of the city. Some money has been spent of late on a small town drainage scheme and it may be hoped that the health of the place will improve.

The opening of the railway on the opposite side of the Jammu has somewhat prejudiced the commercial position of Karnal; having attracted from it much of the commerce formerly

passing along the Grand Trunk Road, but the Delhi-Kalka Railway, which was opened in the present year, may bring back trade. The municipality of Karnal was first constituted in 1867. It was re-constituted in 1884 and is now a municipality of the 2nd class. The committee consists of five nominated and twelve elected members, from whom a president and vice-president are chosen by election. Table No. XLV shows the income of the municipality for the last few years. It is chiefly derived from octroi levied on the value of almost all goods brought within the municipal limits for the consumption or use of its inhabitants. The chief manufactures are—country cloth for local consumption, and blankets, boots, and brass vessels for export. A considerable trade in leather is carried on, and there is a large population of *Chamars* who execute contracts for harness, saddlery, boots, and leather articles required by the cavalry and artillery. Skilful artificers are still to be found here, survivors from the old cantonments.

The public buildings in the civil station are the Deputy Commissioner's Court, Treasury, Police station, Police Lines, Staging Bungelow, Church, and Jail, also the tower of the old cantonment church. In the suburbs there are a District School, and a Post Office, one Government and two other *sarais*, a dispensary, and the Municipal Committee room.

The Government maintains here a branch of the Hissar Cattle Farm and depot for rearing army remounts.

Kind of Enumeration	Year of Census.	Persons.	Sexes.	Remarks.
Whole Town	1861	25,007	17,941	12,066
	1881	22,129	15,404	10,225
Municipal Limits	1868	22,047	—	—
	1875	22,914	—	—
	1881	22,325	—	—

The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown in the margin.

It is difficult to as-

certain the precise limits within which the enumerations of 1868

Town or Suburb.	POPULATION.	
	1868.	1881.
Karnal Town	22,007	21,000
Mahesh Math		724
Grand Bazar		244
Civil Lines		304

and 1875 were taken; but the details in the margin, which give the population of suburbs, throw some light on the matter. The figures for the population within municipal limits according to the census of 1868 are taken from the published tables of the census of 1875; but it was noted

at the time that their accuracy was in many cases doubtful. In 1881 the town included all that lay within municipal boundaries, together with the encamping ground, Civil Lines, and *Stad Depot*.

The Deputy Commissioner wrote as follows in the district report on the Census of 1881 regarding the decrease of population:—

"The decrease is in some measure due to the diminished trade owing to the opening of the railway, to the removal of the *Stad*

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Department, and to the presence of troops on the encamping ground in 1868, but still more to the unhealthiness caused by the canal and the swamps around it, which has been intensified since 1885."

In the case of all the towns the constitution of the population by religion, and the number of occupied houses are shown in Table No. XLIII, and details of sex will be found in Table No. XX of the Census Report of 1881. The annual birth and death-rates per mille of population since 1851 for Karnal are given below, the basis of calculation being in every case the figures of the most recent Census. The figures for deaths show the extreme unhealthiness of the place. One tenth of the population died in 1884, when a very violent outbreak of fever took place in consequence of the heavy rain-fall and the flooded condition of the environs of the town:—

Total.	1851.	1861.	1871.	1881.	1891.	1901.	1911.	1921.	1931.	Average.
Birth-rate	25	30	36	43	34	36	35	30	33	32
Death-rate	45	36	31	102	40	26	37	33	30	44

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Town of Kunjpura.

357. Kunjpura is a small town in latitude $29^{\circ}43'$ north, longitude $77^{\circ}7'15''$ east. It has a population of 4,726, consisting of 2,174 Hindus, 1 Jain, and 2,531 Muslims. It is situated in the Khádír of the Jamun, which now flows about 2 miles to the east, and is distant from Karnal 6 miles north-east. It is the residence of a distinguished Muhammadan family, whose head enjoys the revenue of the neighbourhood as jagirdar and bears the title of Nawab (para 194).

The town is enclosed by an old masonry wall, which is now in a dilapidated state. The public buildings are—a school, a police *chandi*, and dispensary. The Municipal Committee has been abolished. The trade of the town is wholly local and unimportant. The history of Kunjpura has already been given (para 194). It was from the cover of the fine orchards, which still exist close to the town, that a division of the Persian army under Nadir Shah made an important flank

Circle of enumeration.	Year of Census.	Persons.	Males.	Females.
Whole town ..	1891 1901	4,722 5,713	2,539 2,939	2,184 2,774
Municipal limits	1891 1901 1911	4,145 4,649 5,713	— — —	— — —

movement on the force of Muhammad Shah at the battle of Karnal in 1739 A. D. The population as ascertained at the enumerations of 1881, 1875, and 1861, is shown in the margin.

The difficulty of comparing the results of these three enumerations noted in the case of Karnal exists here also.

308. Panipat is a municipal town and administrative headquarters of a *tahsil* of the same name. It lies in latitude $29^{\circ} 23'$ north longitude $77^{\circ} 1' 10''$ east, and has a population of 25,032 souls, consisting of 7,334 Hindus, 1 Sikh, 765 Jains, 16,017 Mussulmans, and 2 others. It is situated on the Grand Trunk Road, 53 miles north of Delhi, near the old bank of the Yamuna, upon a high mound composed of the debris of centuries. From all sides the town slopes gently upwards towards an old fort, which is its highest point, and has low and squelchy outcrops, receiving the drainage of the higher portions. The town is enclosed by an old wall which is formed by the back of many houses, and has 15 gates, of which the Salarganj to the north, Shuhaylayat to the south, Madhoganj to the east, are the principal ones; suburbs stretch in all directions except to the east. The town is traversed by two main *bazars* running respectively from east to west and from north to south, the latter being the principal one. The streets are all well paved or metalled, but are narrow and crooked.

The principal building of antiquity within the city walls is the Dargah Kalandar Sahib (pars. 127). The tomb, with the exception of the pillars of the "*dalan*" or hall, which are of touchstone, was erected by Khizr Khan and Shadi Khan, sons of the Emperor Ala-ud-din Ghori. The touchstone pillars, *afars*, and ways, erected by one Razakullah Khan, son of Nawab Mukarram Khan, a *Kutub* in the service of the Emperor Akbar. The "*Khadims*" of the Dargah still hold from Government a grant of land yielding Rs. 1,000 a year. They originally received Rs. 1,950 a year, but the income was reduced in 1858 in consequence of its having been discovered that a crusade had been preached against the British Government in 1857 at this place.

The town is of great antiquity, dating back to the period of the war between the Pandavas and the Kauravas, when it formed one of the well known five "*puts*" or "*prasthas*" demanded by Yudhishtira from Duryodhana as the price of peace. In modern times the plains of Panipat have three times been the scene of decisive battles, which equalled the fate of Upper India. (See pars. 43, 44, and 45). In the first battle of Panipat Ibrahim Lodi fell, and an inscribed platform has been erected in his memory by the District Committee, just outside the octagonal tower of a garden wall which is still standing. When, however, the Grand Trunk Road was made, the Road Department destroyed the tomb (so says General Cunningham), and now an insignificant masonry platform with a commemorative inscription, is all that stands in the name of the Emperor. The old tomb used to form a place of pilgrimage for the people of Gwalior, since the last Raja of the old Gwalior dynasty fell in the same battle.

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Town of Panipat

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The city is built upon a small promontory round which the old bed of the Satana flows, and is well raised on the accumulation of centuries, the old fort in particular commanding the country for a considerable distance. The town is surrounded in trees, and the white buildings shining through them present a very pleasing appearance as you approach it. Panipat must in old times have been of much greater size than it now is, and Jacquetmont describes it as the largest city, except Delhi, which he saw in northern India. Ruins of old houses extend to a considerable distance round the town, and many mosques, shrines, and gardens of very considerable pretensions still existing, but now in sad disrepair, tell of former importance. Many of the buildings possess considerable historical interest. An old Indian gun, some 8 feet long, made of bars of iron bound together by iron hoops, and with its muzzle of gunj shilas or fort-breaker cast on it, used in the last ill after the mutiny, when it was destroyed and the gun thrown over the parapet. It has lately been moved to Delhi. The inhabitable are Araks, Rajputs, Pathans, Bhatpuras, Kayaths, and the ordinary city classes.

The city of Panipat used to be comparatively healthy, till, in 1852, a cut called the Hor escape was made to drain some swamps at the junction of the Delhi and Hasser canals. This cut, assisted by the Grand Trunk Road held up the Banger drainage in a loop of the Khadir, just as the canal at Karnal, all the back-broke and the water poured down the Burhi Null, which would ordinarily have carried it off harmlessly, but which had silted up to a great degree since the cut stopped the regular flow of drainage on to the city of Panipat. The sickness so caused was so great that in 1854 the headquarters of district were moved from Panipat to Karnal on this ground. Rice cultivation was then prohibited in the neighbourhood of the town, but the prohibition is no longer in force. Drainage improvements recently carried out by the Irrigation Department will probably result in a great reduction of disease. The chief families have already been described in Chapter III, Section V. Mr. Robertson thus describes the town population:—

"The people of Panipat are proverbially classed with those of Koonpail of Jagadhri as bearing not the highest of characters.—I think that taken as a whole, they perhaps deserve their reputation. They are almost all more or less educated men; they have the misfortune to hold their land revenue-free, so that they are never wholly without means; but they are too shy to cultivate themselves, while the body of landowners has outgrown the capacity of the land to support his hands in comfort. Of course there are unnumbered individuals who earn an honest livelihood by service or the like, and very many whose character for probity is unimpeached, for many of whom I have the highest personal respect. But there is a very large middle-class indeed who have attained the most conspicuous ability in chicanery: and their nearest female relations, all of whom are strictly secluded, and almost all of whom possess land under

the Mohammedan law of inheritance afford them a wide field for its practice without danger, which they take advantage of to the full. Their lack of education, and the tendency to intellectual apathy which marks the race, have rendered their tenure and title extremely difficult to dispute; and our British power-of-attestation, obtained by a couple of friends, and purporting to empower the holder to dispose fully of the lands and other property of his wife, sister, or daughter, is often the basis of very curious proceedings indeed. I should add that the above description is the true type of the Rajput class of the other classes of inhabitants; and is especially applicable to the Rajasthani Rajputs, who, cultivating themselves, and being themselves looked down upon by their fellows, have generally escaped contamination. But the typical Panipat sutor, with a portion of great length and intricacy, and displaying great research in details of jurisprudence wholly irrelevant to the matter at issue, with a small law library of imported text in his pocket, and who puts out in very high school language an intricate and subtle argument of which the hearer is a little carelessly distracted round the point in dispute, is not a pleasant man.

The opening of the railway on the opposite side of the Jammu somewhat prejudiced the commercial position of Panipat, having attracted from it much of the commerce formerly passing along the Grand Trunk Road. But the new Delhi-Kalka Railway passes beside the town. The municipality of Panipat was first constituted in 1857. It was reconstituted in 1884 and is now a municipality of the 2nd class. The committee consists of five nominated and eleven elected members, from whom a president and vice-president are chosen by election. The income (table XIV) is chiefly derived from octroi levied on the value of almost all goods brought within the municipal limits for the consumption of its inhabitants. The next important occupation after agriculture is that of trade and banking. There is little trade with towns at a distance. What there is, is chiefly local trade and banking. The manufacture of copper vessels for export is of some importance. There are several large establishments for the manufacture of glass for ornamenting women's dress. The only other manufactures, other than those carried on in almost every village, are cutlery and the making of silver beads in imitation of pearls.

The glass manufacture is of some interest. The glass is blown into large globes, and into these, while still hot, some amalgam is poured and the globes turned about, thus receiving an internal coating of quicksilver. They are then broken up into small pieces, which are used as spangle ornaments both by women for their dress, and for the decoration of the walls of rooms.

The public buildings in this town are the police station, the school, and the Municipal Committee room. These three stand on the top of the old fort mound. Besides these in the suburbs there are a dispensary, a post office, and a large bazar. The school building and a small road bungalow are situated about a quarter of a mile north, and the civil station about a mile to the west. There

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Town of Panipat

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is also a large *pakka* tank to the north of the city. It was built by Mathra Das Bano in the time of Emperor Muhammad Shah.

The population as ascertained at the enumerations of 1868,

Division of townships.	Year of Census.	Present.	Male.	Female.
Whole town ..	1866 1881	29,118 21,332	12,544 17,691	16,574 13,641
Municipal towns	1866 1874 1881	26,374 24,508 22,231		

1875, and 1881 is shown in the margin. The difficulty of comparing the results of these 3 enumerations noted

TOWN or VILLAGE.	POPULATION.	
	1868.	1881.
Panipat town ..		26,622
Haryana		431
Badliwala		418
Amirnagar	22,217	100

in the case of Karnal exists also as regards Panipat; but the details in the margin throw some light on the matter. It would appear from information supplied by the Deputy Commissioner that Narwala and Amirnagar were included in the census of 1868. The above

figures show that they were excluded from that of 1881, as also was Bichpuri though being within municipal limits. The census of the town itself was confined to the area within the octroi barrier.

The annual birth and death-rates per mille of population since 1881 are given below, the basis of calculation being in every case the figures of the most recent census.—

Detail.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	Average.
Birth rate.	40	37	41	44	39	37	46	21	35
Death rate.	37	32	37	41	41	34	37	33	35

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Town of Kaithal

359. Kaithal is a municipal town and administrative headquarters of a *taluk* of the same name. It lies in latitude 29° 49' 7" north, longitude 76° 26' 26" east, and has a population of 14,754 souls, consisting of 2,697 Hindus, 171 Sikhs, 124 Jains, and 3,832 Mussulmans. It is picturesquely situated on the bank of an extensive artificial lake or moat, called the Bidkiar tank, with numerous bathing places and flights of steps. A high wall, partly *pakka* and partly of mud, encloses the opposite side of the town. It has eight gateways, of which the Karnal gate to the east, the Koorak and Suraj Kund gates to the north, and Kanni gate to the west, are the principal ones. Most of the streets are well paved or metalled but are nearly all narrow and crooked. The town lands are very extensive and are divided into six *patte*, each constituting a separate

estate, but leaving the town as their common abode. The principal buildings of antiquarian interest are as under:—

1.—Tomb of Shakh Shahab-ud-din Balkh at the Siwan gate. This prince is said to have come from Balkh to Hindustan in 673 Hiji; he was slain in battle at Kaithal; his grandson built this tomb to his memory; the pillars and cupola are entirely of stone; the inscription is in Arabic on the cupola; the tower was removed from the tomb by one of the Bhais of Kaithal.

2. Masjid of Shakh Faruk—Built by himself in the time of the Emperor Akbar Jai-ud-din; the cupola is coated with enamel.

3. Tomb of Shah Vilayat.—It was built in the reign of the Ghoris. Shah Vilayat's father built the tomb.

4. Tomb of Shah Karnal.—Fakir Shah Karnal is said to have come from Baghdad 250 years ago; the tomb was erected by his descendants; twice every year a fair is held at the spot; 24 acres of lands assessed at Rs. 15 have been released in perpetuity for the support of the shrine.

5. Ashau Anjul, mother of Hanuman.—This temple of Anjul, the mother of Hanuman, was lately repaired by the Hindus of Kaithal.

The town is clean and picturesque.—The ruins of the old fort, or residence, of the Kaithal family stand out prominently on the high bank of the Balkar nalk, which seems to have been partly made by the excavation of bricks for building the town and fort, and partly formed to act as a moat for defence. The large house built by Bhal Ude Singh after the model of Sir David Ochterlony's house at Karnal also overlooks the lake.

This town is said to have been founded by the mythical hero Yulhishthira, and is connected by tradition with the monkeygod Hanuman. It bears in Sanskrit the name of Kapisthala, or the abode of monkeys—a name which still applies. The town was renovated, and a fort built under Akbar. In 1797 it fell into the hands of the Sikh chieftain, Bhal Dewa Singh, whose descendants, the Bhais of Kaithal ranked amongst the most important and powerful Cis-Satluj chiefs. Their territories passed to the British Government in 1843. For a few years Kaithal formed the head-quarters of a separate district; but in 1849 it was absorbed into the district of Thanesar, and transferred in 1862 to that of Karnal. (para. 72).

The municipality of Kaithal was first constituted in 1867. It was reconstituted in 1884 and is now a municipality of the 2nd Class. The committee consists of five nominated and nine elected members, from whom a president and vice-president are chosen by election. Table No. XLV shows the income of the municipality for the last few years. It is chiefly derived from

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Town of Kaithal.

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octroi levied on the value of almost all goods brought within the municipal limits for the consumption or use of its inhabitants. A sheep-trade is carried on in grain, sal ammoniac, saltpetre, horned cattle, sheep, and country blankets. The refinement of saltpetre is brought to considerable perfection. Lacquer ornaments and toys are also made in some numbers both in Karnal and in some of the surrounding villages. The public buildings are—a court-house, a *talukd*, a police station, a dispensary, and a school. There are many large tanks round the city, of which the Mulkar, the Shukr-kund, and the Sarajkund are the principal ones. The population as ascertained at the enumerations of 1865, 1875 and 1881 is shown in the margin.

Details of enumer- tion.	Year of Census.	Persons.	Males.	Females.
Whole town	1865 1875	1,000 1,254	5,485 7,362	5,414 7,123
Municipal limits	1865 1875 1881	1,000 1,254 1,254	5,485 7,362 7,362	5,414 7,123 7,123

The small falling off in population is amply accounted for by the drought which preceded the census, and by the fever epidemic of 1879.

The annual birth and death-rates per mille of population since 1861 are given below, the basis of calculation being in every case the figures of the most recent census:—

Period.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.
Birth-rate	21	21	21	21	21	21	21	21	21	21
Death-rate	20	21	21	21	21	21	21	21	21	21

The actual number of births and deaths registered during the last five years is shown in Table No. XLIV.

Town of Karnal.

360. SIKRI is a small town, or rather a large village of 3,717 inhabitants, situated in the valley of the Saranati, about 6 miles north of Karnal. The town itself is an unpretentious collection of native houses without a wall or any building of importance. It has a school. Its lands include an enormous hollow in which rice is extensively grown with the aid of the flood-waters of the Saranati. On the stream are the broken

Year of Census.	Persons.	Males.	Females.
1865 1875	3,304 3,717	1,724 2,334	1,580 2,383

pieces of an old bridge and the abandoned village site of Palar-mara where ancient bricks and Indo-Seythian coins are found. The population as ascertained at the enumerations of 1865 and 1875 is shown in the margin.

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Pundri town.

The decrease in population is attributed by the Deputy Commissioner to the years of drought which preceded the census of 1881, and to the fever epidemics of 1879.

341. Pundri is a small town in latitude $28^{\circ} 45' 30''$ north, longitude $76^{\circ} 56' 15''$ east. It has a population of 4,977 souls, consisting of 3,543 Hindus, 1,330 Mussulmans, and 4 others. It is situated on the bank of an extensive tank known as the Pundri tank, which gives its name to the town, and which nearly half surrounds it with bathing places and flights of steps. Pundri was in old days, one of the strongholds of the Pundri Rajputs (para. 134). The town is enclosed by a mud wall, and has four gates, of which the Pundrik gate is to the north, the Kaithal gate to the west, the Pat gate to the south, and the Habri gate to the east. Nearly all its streets are paved. There are many large private buildings, and a good *agari* kept by a banker. The public buildings are a school and police station. The Municipal Committee has been established. The bankers generally have their firms at Sohna cantonment. The Salyals of Pundri are a well known, but decayed family, the chief man of the family is Amarullah, a Hakim, who is in receipt of an *inam* of Rs. 50. The population as ascertained

at the enumerations of 1868, 1875, and 1881 is shown in the margin, but, as noted in the case of Karnal, the figures may not all relate to

Sancti of enumeration.	Year of Census.	Population.	Males.	Females.
Whole town	1868 1875 1881	4,772 4,977 4,977	2,109 2,223 2,223	2,663 2,754 2,754
Municipal wards	1868 1875 1881	4,772 4,977 4,977		

exactly the same areas.

362. Pehowa has already been noticed in para. 27. It is an exceedingly unhealthy place, the great depression to the south of the town becoming a lake in the rains. It had a population of 4727 in 1855. The population as ascertained at the enumerations of 1868, 1875, and 1881 is shown below.

Pehowa.

Sancti of enumeration.	Year of Census.	Population.	Males.	Females.
Whole town	1868 1875 1881	4,099 4,609 4,609	2,099 2,299 2,299	1,999 2,310 2,310
Municipal wards	1868 1875 1881	4,099 4,609 4,609		

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Towns and
Municipalities.

Tilwara.

The Municipal Committee has been established. Pabera is a noted place of pilgrimage. A large fair is held yearly for bathing in the Sarasti, the persons attending being usually from 20,000 to 25,000.

363. Tilwari, though not classed as a town, is a place of some historical interest. Here in 1191 the invading army of Muhammad bin Sam was defeated by the united Hindu armies under Pirthvi Raj, the Chauhan King of Delhi (para 39). Here Prince Azim, son of Aurangzeb (afterwards for a short time Azim Shah) was born. In memory of him the place was named Azimabad, and is still so called by many Musalmans. A wall round the town, a mosque, and a tank, said to have been the work of Aurangzeb, are still in existence. The old highway ran through Tilwari and there is a well preserved specimen of the old royal avenue here. This building appears to have been used by the Sikhs as a fort. It is now the property of Nawab of Kunjpur and is unward and neglected. Tilwari is one of the stations on the new Delhi-Kalka Railway.

APPENDIX A.

Appendix A.
Growth of Irriga-
tion from
W. J. Canal.

Growth of irrigation from the Western Jumna Canal, and extent of value of rice, sugarcane and wheat.

The figures below show the irrigation from the whole of the Western Jumna Canal from 1819 to 1840, no separate figures being available for the district. The Delhi branch was opened in 1820, but the small supply of water carried by it may be ascribed from the fact that till 1826, at least, no bridges were needed, as a loaded village cart could be driven through it without inconvenience. In 1826 the Rohuk branch was opened as far as Gohana, but the irrigation from both these canals, though steadily increasing up to 1833, was still very limited, and in 1833 the small use made of the water was attributed to "the uncertainty of the supply, the insufficiency of the outlets permitted for each village, and the high rates charged" viz., $\text{Rs. } 11\text{--}2$ per acre.

Early Irrigation from Western Jumna Canal.

Year.	Amount of water, acre ft. raised.	Area irrigated, at present rate of Rs. 11-2 per acre.	REMARKS.
1819-20	876	1,233	Main line & Delhi branch opened.
1820-21	14,549	26,966	
1821-22	21,619	25,579	Drought.
1822-23	21,158	20,740	
1823-24	21,015	21,000	Drought.
1824-25	20,647	20,161	
1825-26	48,374	60,520	Drought.
1826-27	53,975	48,686	
1827-28	51,161	46,939	Rohuk branch opened.
1828-29	52,559	70,582	
1829-30	57,275	76,194	Drought.
1830-31	57,700	81,384	
1831-32	51,018	70,150	Drought.
1832-33	62,965	24,000	
1833-34	1,49,798	2,13,337	Drought.
1834-35	1,31,005	1,03,465	
1835-36	1,16,403	1,05,401	Drought.
1836-37	1,53,177	2,19,505	
1837-38	2,72,876	2,50,214	Drought.
1838-39	1,89,316	2,74,761	
1839-40	2,21,181	3,21,511	Rain scanty.
1840-41	2,40,818	3,09,597	
1841-42	2,63,009	3,70,079	Contract system introduced.
1842-43	2,70,399	4,00,337	

The terrible famine of 1833-34 gave a new turn to the irrigation question. This famine fell with perhaps even greater severity upon the Bangar than upon the Khadir; for the canal failed, while the people of the latter had at least their wells, so

Appendix A.
Growth of Irrigation.

long as the cattle had strength to work them. The distress, feebly described at page 26, paralysed for a whole year the agriculture of the tract. But this very distress was the means of securing at one bound an advance in prosperity which might otherwise have taken many years to attain. The canal presented at least a possibility of salvation; and its officers had no longer reason to complain that the water they proffered was not accepted. Irrigating villages enlarged and multiplied their channels; numerous other villages which had never before irrigated dug cuts for themselves, often many miles in length; and the area irrigated was limited only by the means of supply, instead of, as heretofore, by the demand. Strainous efforts were made to increase that supply; and the irrigation of 1833-34 was 24 times that of 1832-33, while the construction of the Butana branch extended the water to a part of the tract which it had previously been unable to reach. The means of irrigation, once called into existence by the pressure of a water-famine, were still available when the urgent necessity had passed away; and the irrigation never again fell to its former level. The failure of the rains in 1836-37 raised it above the figures of 1832-33, and the continuance of the drought caused the irrigation in 1837-38 to rise to what Captain Baker, the Superintendent of Canals, declared in 1841 to be the maximum capacity of the channels as they then stood. But the supply was still uncertain, and apt to fail when most needed. The whole system of canals and their subsidiary channels had been called on to perform a task far in excess of that for which they had been designed; the call had been urgent, and the necessary adaptations had been made as best they could, and on the spur of the moment. The arrangements at the heads for supplying the water from the river were also very imperfect; and too often the canal broke down just when there was the greatest need for its services.

Year.	Acres.
1876	69,237
1875	66,178
1874	1,27,267
1873	67,304
1868	71,057
1861	66,289
1860	69,662
1859	67,828

Defects of the canal system.

The table on the next page shows the irrigation between 1865 and 1875. The figures refer only to the portion of the district settled by Mr. Elphinstone; but the canal irrigation excluded is insignificant in amount. Since that date the area charged with water-rate in the Karnal District has been as shown in the margin.

When the canal was re-opened, every facility was offered to such villages as would make use of the water. In most cases an old imperial water-cut still existed, which they were allowed to clear out and use; and when there was none, they simply made themselves a channel straight from the nearest point on the canal from which water would flow to their fields. As the demand for water has extended, certain large distributaries have been constructed, which have absorbed many of the early channels, while others have been deepened, enlarged, and extended. The main canals, too, have been deepened and their banks raised, till the water

Appendix A.

Growth of Irrigation

[illegible]

Appendix A.

Growth of Irrigation.

Defects of the canal system.

touches the crown of the arches in the bridges. Most of these extensions were made under pressure of urgent need, and therefore without interrupting the supply, and too hurriedly to admit of due consideration being given to them, or of the best possible scheme being selected. Thus, while the faulty alignment of the old canal and channels is still followed, their carrying capacity has been so increased that in most part the surface level of the water, and in some places the bed of the canal, is above the surrounding country, and the water is thus forced into the sub-soil by hydraulic pressure.* A great deal of the canal is, of course, in embankment; and in many of the secondary channels silt clearances, often dating from the time of the Moghals, have raised the banks to a height of 12 and 15 feet; and this system of embankments has been constructed with little reference to the natural drainage that it intersects all the drainage lines of the tract, and throws back the surface water over the surrounding country. This is especially the case in Karnal Bangar, where the canal runs in embankment below the Nardak step in the Hissar and the Khudir bank in the Khudir, and holds up all the drainage which runs southwards from the highlands. The highland distributaries which cross the lowland to reach the villages on the crown of the slopes, act as so many dams above which huge swamps form, while the loops of the old channel in which the canal use to run, and which are cut off by it now that it has been straightened, act as breeding beds for crocodiles and malaria.

Excessive irrigation practised by the people.

But if the defects of the means of supply have given rise to evils, the pernicious system of irrigation pursued by the people coupled with its rapid extension has increased those evils a hundred fold. While some 8 per cent. of the central canal tract is permanently under water, 40 per cent. of the whole area and 80 per cent. of the cultivated area is irrigated, much of it twice in the year, much of it for rice cultivation, and almost all of it every year without intermission. Now canal irrigation is not like well irrigation. When every drop of water used is represented by additional labour to man and beast, the greatest economy is exercised; not so when a stroke of the spade is sufficient to set flowing an unlimited supply. In the former case the cultivator divides his fields into small beds which are irrigated successively, and practically answer the purpose of terraces economi-

* The local irrigation from Western Jammu Canal at various periods is shown below—

Years.	Acres.
1820	155
1825	58,185
1835	76,456
1845	221,541
1870	390,512
1875	507,674

The average depths of water in feet at Karnal bridge at various periods is as follows:—

Years.	Feet.
1827	8.84
1830	8.20
1835	6.73
1870	9.91
1875	10.10

And the bottom from which these depths are measured has been raised considerably during the period over which these figures extend.

ing the water, not only by reducing the depth needed, but also by confining the area of already watered ground over which the water has to pass. On the canal, on the other hand, if a field is six inches lower at one end than at the other, a seven-inch bank is made round it, and the whole field put under an average of four inches of water, in order to get one inch at the top; each spot in the field, after receiving its water, is still passed over by the water which goes to spots beyond it; and if a leak occurs in the channel, or if a bullock breaks down the side, the water is allowed to run to waste for hours before any trouble is taken to remedy the evil. The duty of the canal water for 1874-75 was 74 acres in the autumn, and 59 in the spring per cubic foot of supply. Supposing that the loss by evaporation and waste is counter-balanced by the fact that much of this land is watered in both seasons, this represents a supply of 62 inches in the year. A well working 13 hours a day for 150 days in the spring and 80 days in the autumn, and watering 15 acres, would have to supply at this rate 6,067 gallons per hour. Moreover, the well water is itself drawn from the sub-soil supply, and all that is lost by evaporation during the process of irrigation is so much lost to that supply; while in canal irrigation, all that is not so lost, is so much added to that supply.

Appendix A.

Growth of Irrigation.

Excessive irrigation
practised by the
people.

The result is that the whole country is water-logged by the canal water being forced into it from below, while the cultivator drenches it from above. And when the rain comes in tropical abundance, instead of finding a thirsty soil ready to drink up the greater part, it falls upon a country already saturated with water, and the whole volume is thrown into shallow drainage lines with an almost imperceptible slope. These again, being barred at intervals by high banks crossing them at right angles, fill up, and the water is thrown back and covers the country for miles. Thus, when the rainfall has been unusually heavy for several years in succession, there are hundreds of acres in which the autumn crop, if it can be sown at all, is almost or altogether drowned; while such little land as appears above the water soon enough to plough for the spring crop is so moist that the yield is barely worth the trouble of gathering. And there is a still larger area in which, after heavy rain, the water stands some inches deep for three or four days at a time, to the great injury of the crop. No means exist of carrying off the water, for, as the Chief Engineer reported in 1867, the level of the water in the canal can very seldom be reduced in the rainy season, just when the drainage of the swamps is most needed; so even if the supply at the heads be shut off, the quantity of water draining into the channel above Karnal is sufficient and sometimes more than sufficient, to fill the channel at and below that point.

Resulting swamps

Nor is it only swamps that results from the causes above mentioned; for if it were, the higher land might be cultivated as the lower became unculturable. For countless ages the rain falling upon the soil has washed down with it more or less of its

Resulting saline
effluence.

Appendix A.
Growth of Irrigation.

Escalating saline efflorescences

saline constituents into the spring water below. That water now has been raised to within such a short distance of the surface that it can rise to it by capillary attraction, carrying with it salts which have been thus accumulated. As fast as it reaches the surface, wherever the cultivation or the shade of a thick tree does not interfere with radiation and evaporation, the fierce heat of an Indian sun concentrates the solution. Where the water is so near the surface, and the surface moisture so great that diffusion can take place, and the water thus made heavier can return by the way it came, no great harm is done. But over most of the area this is not the case, and the water evaporating leaves the salt deposited; and this process, repeated year after year, eventually covers the soil with a flocculent layer of alkaline salts, lying like fresh-fallen snow, often three or four inches thick. The first rain that falls is not heavy enough to reach the main drainage, and sinking in *in situ* carries with it the salts; thus preserving them by a sort of occlusion from the mechanical action of heavy rain, to re-appear when the next sunny day renews the process of evaporation.*

The salts lie thick round the edges of the cultivation, and notwithstanding the bank made to keep them out, are carried over the boundary by the wind and rain and deposited in the hollows of the out-lying fields. When once cultivation is thus destroyed, the capillary process immediately begins, and thus the evil is gradually eating its way from outside into the still fertile fields every inch gained being made the stepping-stone for further inroads. The saline water and such grass as is able to spring up in the salt-impregnated land give the cattle diarrhoea and glandular affections, enfeeble, and eventually kill them; while the large area which each year covered with water and aquatic plants in the rainy season, and dried up by the sun during the remainder of the year, exhales from its putrifying vegetation a malaria which poisons the blood of the villagers, renders them impotent, and kills them by fever and spleen disease.

Effects upon health and prosperity.

The epidemic of 1841-43, which assumed especial virulence in the canal tract, and caused the abandonment of Karnal as a cantonment, led to the appointment of a Committee by the Supreme Government to investigate the matter. Their report was published at Agra in 1847. In 1867 Surgeon-Major Adam Taylor was appointed to make a further inquiry: and his report was published as Selection No. VI of 1870 from Records of Government Punjab. Some of the figures of both reports are summarised on the next page.

Dr. Taylor shows that 60 to 80 per cent. of the inhabitants in many of the Bangar villages were suffering from enlarged

* An immense amount of information and discussion on the subject of *eye*, its origin, formation, effects, and cure, will be found in the report of the Allpore Sub-Committee of 1874, in Selections No. XLII 1884 from Government of India correspondence, F. W. D., in the printed correspondence with Board of Revenue, N. W. P., No. 211 of 21st October 1874, and Government, N. W. P., Revenue Department, Index Nos. 41-53 of May 1877.

spikes and yearly attacks of fever. He speaks of the "hunger and depression of manner, and stunted and shrivelled forms of the inhabitants of the villages in close proximity" to the canals; and of the absence of "the strength to repair damages as to preserve comfort." The heavy rains of 1871-76 rendered the sanitary condition of the canal villages worse than ever.

Statistics of Disease on Western Jamma Canal.

Appendix A.

Growth of irrigation.

Effects upon health and prosperity.

Locality.	Distance from Canal.	Depth of water below surface.	Percentage of water pollution.	PERCENTAGE SUFFERING FROM FEVER IN		
				1844.	1845.	1846.
REPORT OF 1847.						
WESTERN JAMMA CANAL.						
Dahli Branch.	Within half a mile.	13	69	51	45	41
	More than a mile.	15	40	55	40	40
Bairath Branch.	Within half a mile.	20	41	47	20	27
	More than a mile.	18	29	32	34	27
Bafana Branch.	More than half a mile.	102	16	11	26	29
NEW CANAL VILLAGES.						
Ishti territory.	...	22	11	37	29	17
High Wash.	...	24	9	37	34	30
REPORT OF 1857.						
Dahli Branch.	Within half a mile.	8	61	33	30	63
	More than a mile.	11	34	40	36	56
Bairath Branch.	Within half a mile.	0	41	30	50	51
	More than a mile.	2	47	44	54	64
Bafana Branch.	More than half a mile.	15	7	30	20	32
Between the canals.	...	8	67	31	44	65

In 1856 the people of many of the worst villages abandoned their homes and fled to Jindh; and Mr. Sherer was deputed to inspect the tract. His admirable report was submitted in 1857, and is printed as part of *Selections No. XLII (1864)* from Government of India correspondence, P. W. D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the oyl had not nearly reached its limits, but must necessarily continue to spread almost indefinitely.

From a sanitary point of view he found a state of things existing "very much worse than that described by the Committee of 1847." He speaks of the "miserable disease engendered by the tainted water and malarious exhalations of the soil; of

Appendix A

Growth of Irrigation

Effects upon health and prosperity.

Present condition.

the spectacle of sick women and diseased children crouching among the ruins of their houses (for in many cases the houses had been sold), of haggard cultivators wading in the swamps, and watching their sickly crops or attempting to pasture their lony cattle on the unwholesome grass.

In the beginning of 1877 Mr. Taboan, reporting on the management of the canal tract, wrote as follows:—

"The villages of the tract may be described under three heads. Those which, well removed above the influence of the *rek*, reap the benefits of the canal without being subject to its injuries, are eminently prosperous.

"Those villages, which, though out of the lines of drainage and swamp, are so low that their populations are covered by *rek*, are far less prosperous. Their cultivation has decreased, and must decrease still further; the fertility of what remains has diminished; expansion is impossible; what little grain there is for the cattle weakens and kills them, and the water is bad for both man and beast. Where the village is large and well off, they have saved the mass of their cultivation from any very great deterioration, and the *irrigation* of *rek* are chiefly confined to the edges. But where the community is poor, the whole cultivation has suffered, and the *rek* advances with accelerating impetus. It is, then, most important to assist richly this class of villages, so that they may not be hampered in their struggle with the evil.

"As for the villages which lie in the drainage lines, or have low land near the canal, their state is pitiful indeed. Their early cultivation was, as in the case throughout the district, in the lowest parts of their area; and while the higher lands were becoming covered with *rek*, the stiff soil of the fields helped to preserve the lower from injury. But as the water-level rose, and swamps and sods began to extend, they found their cultivation under water, while, turning too late to their high lands, they perceived that they had become barren; and now they live a semi-amphibious life, their houses crumbling with the damp, crocodiles in their village ponds, the water in the wells so near that, as they say, they can 'draw water without a string,' their sickly feeble cattle obliged to leave the village during the rains, and they themselves suffering from all complications of malarious disease with an unbroken regularity. Year by year they saw rice with the certainty that only an exceptionally dry season can save it from being drowned, and that much of it must even then be injured by too much water; year by year they watch the fields as they dry up, and rapidly plough a plough through the tenacious mud, sow their wheat and barley in the open furrows, till the very last moment when there is hope of their germinating, or even sow the seed on the unbroken mud, and plough over it when the ground is a little drier; and this in the knowledge that some of it will fail, that heavy rain will drown more of it, and that most of what does come up will barely repay the labour spent on it. Much of their land is sour and cold from being so permanently saturated with water that, though not under water, it cannot be cultivated; some of it perhaps is separated from their villages by the canal, the nearest bridge being some miles off, and it being forbidden to take cattle to it along the bank. In a year of drought these villages would reap

splendid crops, but years of drought are fortunately the exception, and I think that the very largest allowance should be made for the circumstances of estates so situated.

"My experience of the tract was in 1877 limited to a probably exceptional series of seasons of full excessive rainfall. Since then I have seen them during a series of, I hope, exceptionally scanty rain, and I think I exaggerated the average condition of the swampy villages. It would be difficult to exaggerate it as it is in really wet years."

General Strachey did not speak one whit too strongly, when he said in 1867:—

"The portion of the canal near Karnal is a disgrace to our administration, and has been for years past. It creates most pestilential swamps which must be got rid of, unless we are content to perpetuate this abominable nuisance, which has been talked about for the last 25 years, during which period no serious attempt has been made to abate it. For my own part, I distinctly reject all share in any course which tends to delay in meeting this most crying evil. I most fully admit the great importance of doing what has to be done with the most scrupulous regard to economy, and I am ready to sacrifice all thought of elegance or congruity for the purpose of avoiding any considerable outlay, which is really not needed to secure efficiency. But it is impossible for me to affirm, with too great positiveness, the moral obligation which rests on our Government to put an end, with all possible speed, to the deplorable condition of the large tracts of land along the Western Jamma Canal which are converted into swamps of the most pestilential nature, not only destructive to the health and life of the population, but occupying in a manner far worse than useless some of what might be the very best lands. It will be necessary to do something, and what is necessary should not be delayed till other works, which have no relation to this part of the scheme, are completed."

The new canal is now nearly complete; the re-alignment of the distributaries has already done much good, and the completion of the drainage scheme will doubtless go far to cure the evil of swamps. But the efflorescence will not be so easily got rid of, and it will probably be many years before this scourge is very materially decreased.

The above was written by Mr. Hibbeton eight or nine years ago. The following note by Mr. Higham, Superintending Engineer, the Sutlej Circle, shows what has been done to remedy the evils to which Mr. Hibbeton referred.

The new main line of the Western Jamma Canal, extending from Indri to Musak, was completed in 1883, and in August of that year the old canal between Indri and Roa was finally closed, and relegated to its proper position as a drainage line. The re-alignment of the distributaries has been since completed, and the obstructions to the free passage of the drainage caused by the old water-courses have been finally removed. Lastly the Karnal District has been provided with three main or arterial drains, two of which have been in full working order since 1887,

Appendix A.

Growth of Irrigation.

Present condition

Appendix

Growth of Irrigation.

Present condition.

though the third is not yet fully developed. The first of them, known as Main Drain No. I, comprises a length of the old canal from Budha Khara to Kharakali. The outfall channel leaves the old canal opposite Kaenál in a north-easterly direction falling into the Budha Khara Rampa of the Western Jammu Canal at Kutel, and thence passing onwards into the Jammu. Three minor tributary drains discharging into this main drain unwater the Karnál City and neighbourhood and the Basida Jhil, and completes the drainage of the great height of the Khadir, lying between the Bángar edge and the old canal, the whole condition of which has very materially improved since its construction. Main drain No. II comprises a further length of the old canal from Kharakali to Rei, which drains the adjacent Bángar Villages. From Kutana the drain is connected by an artificial cut with the old Rei Escape, which has been enlarged and remodelled as far as Babail, four miles to the east of the Grand Trunk Road. From Babail, the new drain leaves the line of the Rei Escape by a sharp turn to the south and eventually discharges into an old nullah below Chajpur, and so on into the Jammu at Khojkipar, 12 miles below Pánapat. This drain passes into the Khadir at Mahomedpur, and receives the waters of the Gauda Nullah, or natural main line of the Khadir immediately above the point of crossing the Grand Trunk Road. Several other inlets are provided along its course both in the Bángar and Khadir for the drainage of adjacent lands, while at its lower end the spoil on the left or eastern bank efficiently protects several villages from the overspill of the Jammu.

The third arterial drain, known as Main drain No. III, or the Nai Nullah, will drain the lands to the west of the new main line and New Banaí Branch until it passes under the latter at Antu, a short distance above Safidan, in Jind territory. Below this point it unwaters the tract lying between the New Dehli Branch and the old Rohtak Canal, and constitutes a natural drainage line, which passes into the Rohtak District at Chichiana (when it is locally known as the Loti Nullah) running in a westerly direction through Gohān and to the west of Rohtak, with an ultimate outfall into the lakes north of Thajjar, which communicate with the great Najafgarh Jhil in the South of the Dehli District. Until recently however the outfall below Gohān was completely closed, and the efficiency of the Nai Nullah as a drainage line was limited by the expansion of the Rohta Jhil above that town. By the completion of Main Drain No. VIII below Gohān an efficient outfall has now been provided and the channels of the upper part of the nullah and of a few subsidiary drainages alone remain to complete this third and important main drain, and with it the drainage scheme for the canal irrigated portions of the Karnál District.

STATISTICAL TABLES
APPENDED TO THE
GAZETTEER
OF THE
KARNAL DISTRICT.

(INDEX ON REVERSE).

STATISTICAL TABLES.

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Table No. II, showing DEVELOPMENT.

1	2	3	4	5	6	7
Details	1883-84.	1885-86.	1893-94.	1895-96.	1898-74.	1899-70.
Population	6,17,307	...	6,21,611
Cultivated acres	6,45,120	6,71,000	6,80,210
Irrigated acres	2,42,445	2,43,951	2,45,100
Works (from Government works)	1,08,400	1,02,227	1,03,227
Assessed Land Revenue, rupees	6,05,050	6,72,910	6,85,000
Revenue from land, rupees	6,02,700	6,70,000	6,97,217
Gross revenue, rupees	7,14,770	7,61,001	7,92,250
Number of lines	1,04,305	1,08,930	1,09,000
" steep and grade	70,075	65,212	61,002
" canals	501	750	700
Miles of metalled roads	467	18	67
" unmetalled roads	154	285
" Railways
Police staff	402	655	614	621
Prisoners convicted	1,000	1,612	1,575	1,710
Civil suits,—number	1,539	1,564	2,000	5,000	5,000
" —value in rupees	2,07,172	2,01,765	1,00,161	2,01,000	2,00,775
Municipalities,—number	2	2
" —income in rupees	20,000	21,742	21,000
Hospitals,—number of
" —patients	15,113	27,774	26,000
Schools,—number of
" —scholars	1,817	2,140	7,000	2,000

Note.—These figures are taken from Tables Nos. I, III, VIII, XI, XV, XXI, XL, XLV, I, LXX, and LXXI of the Administration Report.

The area of the district has been enlarged since 1861. The population of the district as now constituted was 6,45,219 in 1891.

Table No. III, showing RAINFALL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ANNUAL RAINFALL IN TENTHS OF AN INCH.																								
Rain-gauge station.	1860-61.	1861-62.	1865-66.	1866-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	Average.
	108	106	110	120	121	126	131	133	131	134	134	136	136	136	136	136	136	136	136	136	136	136	136	136
	157	157	141	141	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183
	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196
	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209
	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222
	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235
	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248	248
261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	
274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274	
287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	
300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	
326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	
339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	339	
352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	352	
365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	
378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	378	
391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391	
404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	404	
417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	417	
430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	
443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	
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755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	755	
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885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	885	
898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	
911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	
924	924	924	924	924	924	924	924	924	924	924	924	924	924	924	92									

Note.—These figures are taken from the weekly rainfall statements published in the Punjab Gazette.

Table No. III A, showing RAINFALL at HEAD-QUARTERS

1	2	3	1	2	3
MONTHS.	ANNUAL AVERAGES.		MONTHS.	ANNUAL AVERAGES.	
	No. of rainy days in each month—1907 to 1916.	Rainfall in inches in each month—1907 to 1916.		No. of rainy days in each month—1907 to 1916.	Rainfall in inches in each month—1907 to 1916.
January	2	11	September	5	37
February	2	13	October	1	3
March	3	13	November	...	...
April	1	0	December	1	5
May	3	1	1st October to 1st January	5	5
June	0	42	1st January to 1st April	7	34
July	11	62	1st April to 1st October	23	243
August	8	23	Whole year	42	389

NOTE.—These figures are taken from Table No. XXIV of the Revenue Report, and from page 36 of the Census Report.

Table No. III B, showing RAINFALL at TAHSIL STATIONS

1	2	3	4	5
TAHSIL STATIONS.	AVERAGE FALL IN TENTHS OF AN INCH, FROM 1970-71 TO 1977-78.			
	1st October to 1st January.	1st January to 1st April.	1st April to 1st October.	Whole year.
Mahipat	—	5	23	248
Kaithal	—	2	21	212

NOTE.—These figures are taken from pages 34, 37 of the Census Report.

Table No. V, showing the DISTRIBUTION of POPULATION

1	2	3	4	5
	Distric.	Tahsil Karnal.	Tahsil Farukhat.	Tahsil Sahasr.
Total square miles	2,300	502	491	4,307
Cultivated square miles	1,902	249	274	3,425
Uncultivated square miles	400	253	217	882
Square miles under crops (average 1977 to 1981)	211	219	209	349
Total population	427,421	227,694	189,790	368,114
Urban population	16,899	17,094	20,002	25,000
Rural population	411,522	210,600	169,788	343,114
Total population per square mile	186	453	386	854
Rural population per square mile	227	411	346	792
Villages & hamlets.	Over 10,000	1	1	1
	5,000 to 10,000	1	1	1
	2,000 to 5,000	13	8	10
	1,000 to 2,000	32	34	10
	500 to 1,000	117	48	27
	200 to 500	162	79	69
	Under 200	208	117	120
	Total	602	311	239
Occupied houses	10,411	4,540	4,000	5,871
Unoccupied houses	27,000	16,771	12,790	15,139
Residential buildings	37,411	21,311	16,790	21,010
Industrial buildings	21,000	1,211	1,211	1,211
Public buildings	27,411	1,211	1,211	1,211

NOTE.—These figures are taken from Tables Nos. 1 and XVII of the Census of 1901, and the population estimates and area figures which are taken from Tables Nos. 1 and XXIV of the Administrative Report. They refer to the district as constituted in 1901.

Table No. IX, showing MAJOR CASTES and TRIBES.

Serial No. in Census Table No. VIII A.	Caste or Tribe.	Totals, KARNATA.			Male, or MASCULINE.				Proportion per mille of Population.
		Persons.	Males.	Females.	Male.	Male.	Female.	Both sexes.	
1	Total population	427,001	204,171	222,830	204,000	1,504	2,496	42,000	1,000
2	Hindus	3,200	2,100	1,100	..	..	..	5,100	12
3	Jat	47,100	22,000	25,100	17,100	4,900	..	1,100	14
4	Rajput	10,000	20,000	20,100	7,100	..	..	21,000	63
5	Kur	21,000	12,000	19,000	10,000	..	..	..	54
6	Yogi	4,100	8,200	1,000	1,100	..	..	1,100	7
7	Chakr.	21,000	12,000	9,000	2,000	..	..	2,100	33
8	Mali	1,000	1,000	4,000	1,000	..	..	..	2
9	Arjun	2,100	1,000	1,000	..	..	..	1,000	11
10	Kamali	1,000	1,000	1,000	1,000	..	..	700	15
11	Arjun	1,000	1,000	1,000	1,000	..	..	1,100	23
12	Hindus	12,100	20,000	20,000	20,000	..	..	..	93
13	Arjun	1,000	2,100	1,000	..	..	..	2,100	7
14	Arjun	1,000	1,000	1,000	..	..	..	..	7
15	Arjun	10,000	1,000	1,000	1,000	..	..	1,000	17
16	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
17	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
18	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
19	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
20	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
21	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
22	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
23	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
24	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
25	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
26	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
27	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
28	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
29	Arjun	1,000	1,000	1,000	..	..	..	1,000	3
30	Arjun	1,000	1,000	1,000	..	..	..	1,000	3

Note.—These figures are taken from Table No. VIII A of the Census of 1901, and refer to the district as constituted in that year.

Table No. IXA, showing MINOR CASTES and TRIBES.

Serial No. in Census Table No. VIII A.	Caste or Tribe.	Persons.	Males.	Females.
10	Hindus	1,100	800	470
11	Arjun	1,000	400	110
12	Arjun	1,000	1,000	1,000
13	Arjun, miscellaneous and unspecified	1,000	1,100	600
14	Arjun	1,000	1,100	200
15	Arjun	1,000	1,000	1,000
16	Arjun	1,000	1,000	1,000
17	Arjun	1,000	1,000	1,000
18	Arjun	1,000	1,000	1,000
19	Arjun	1,000	1,000	1,000
20	Arjun	1,000	1,000	1,000
21	Arjun	1,000	1,000	1,000
22	Arjun	1,000	1,000	1,000
23	Arjun	1,000	1,000	1,000
24	Arjun	1,000	1,000	1,000
25	Arjun	1,000	1,000	1,000
26	Arjun	1,000	1,000	1,000
27	Arjun	1,000	1,000	1,000
28	Arjun	1,000	1,000	1,000
29	Arjun	1,000	1,000	1,000
30	Arjun	1,000	1,000	1,000
31	Arjun	1,000	1,000	1,000
32	Arjun	1,000	1,000	1,000
33	Arjun	1,000	1,000	1,000
34	Arjun	1,000	1,000	1,000
35	Arjun	1,000	1,000	1,000
36	Arjun	1,000	1,000	1,000
37	Arjun	1,000	1,000	1,000
38	Arjun	1,000	1,000	1,000
39	Arjun	1,000	1,000	1,000
40	Arjun	1,000	1,000	1,000
41	Arjun	1,000	1,000	1,000
42	Arjun	1,000	1,000	1,000
43	Arjun	1,000	1,000	1,000
44	Arjun	1,000	1,000	1,000
45	Arjun	1,000	1,000	1,000
46	Arjun	1,000	1,000	1,000
47	Arjun	1,000	1,000	1,000
48	Arjun	1,000	1,000	1,000
49	Arjun	1,000	1,000	1,000
50	Arjun	1,000	1,000	1,000
51	Arjun	1,000	1,000	1,000
52	Arjun	1,000	1,000	1,000
53	Arjun	1,000	1,000	1,000
54	Arjun	1,000	1,000	1,000
55	Arjun	1,000	1,000	1,000
56	Arjun	1,000	1,000	1,000
57	Arjun	1,000	1,000	1,000
58	Arjun	1,000	1,000	1,000
59	Arjun	1,000	1,000	1,000
60	Arjun	1,000	1,000	1,000
61	Arjun	1,000	1,000	1,000
62	Arjun	1,000	1,000	1,000
63	Arjun	1,000	1,000	1,000
64	Arjun	1,000	1,000	1,000
65	Arjun	1,000	1,000	1,000
66	Arjun	1,000	1,000	1,000
67	Arjun	1,000	1,000	1,000
68	Arjun	1,000	1,000	1,000
69	Arjun	1,000	1,000	1,000
70	Arjun	1,000	1,000	1,000
71	Arjun	1,000	1,000	1,000
72	Arjun	1,000	1,000	1,000
73	Arjun	1,000	1,000	1,000
74	Arjun	1,000	1,000	1,000
75	Arjun	1,000	1,000	1,000
76	Arjun	1,000	1,000	1,000
77	Arjun	1,000	1,000	1,000
78	Arjun	1,000	1,000	1,000
79	Arjun	1,000	1,000	1,000
80	Arjun	1,000	1,000	1,000
81	Arjun	1,000	1,000	1,000
82	Arjun	1,000	1,000	1,000
83	Arjun	1,000	1,000	1,000
84	Arjun	1,000	1,000	1,000
85	Arjun	1,000	1,000	1,000
86	Arjun	1,000	1,000	1,000
87	Arjun	1,000	1,000	1,000
88	Arjun	1,000	1,000	1,000
89	Arjun	1,000	1,000	1,000
90	Arjun	1,000	1,000	1,000
91	Arjun	1,000	1,000	1,000
92	Arjun	1,000	1,000	1,000
93	Arjun	1,000	1,000	1,000
94	Arjun	1,000	1,000	1,000
95	Arjun	1,000	1,000	1,000
96	Arjun	1,000	1,000	1,000
97	Arjun	1,000	1,000	1,000
98	Arjun	1,000	1,000	1,000
99	Arjun	1,000	1,000	1,000
100	Arjun	1,000	1,000	1,000

Note.—These figures are taken from Table No. VIII A of the Census of 1901, and refer to the district as constituted in that year.

Table No X, showing CIVIL CONDITION.

1	2	3	4	5	6	7	8
DETAILS.		MARRIED.		MARRIED.		WIDOWED.	
		Males.	Females.	Males.	Females.	Males.	Females.
Actual figures for religious.	All religions	156,912	67,375	153,146	150,572	20,113	48,797
	Hindus	114,144	41,981	112,473	110,499	20,982	34,613
	Sikhs	2,296	1,145	1,912	1,831	300	354
	Jains	1,009	632	1,107	1,126	573	406
	Buddhists	...	...	...	...	...	...
	Muslimans	39,344	23,641	37,556	37,128	5,500	12,929
	Christians	28	27	19	16	2	2
Distribution of every 10,000 souls of each age.	All ages	4,925	3,000	4,655	5,269	777	1,892
	0-10	9,558	9,641	100	361	2	5
	10-15	8,018	8,280	1,004	4,020	47	85
	15-20	6,379	603	4,440	5,765	180	252
	20-25	3,185	100	6,157	9,319	408	580
	25-30	1,243	47	7,664	9,046	592	907
	30-40	1,116	39	7,060	8,031	629	1,027
	40-50	734	26	7,636	8,663	1,709	3,763
	50-60	647	32	6,722	8,054	2,631	6,016
	Over 60	640	23	5,379	1,769	4,081	8,197

NOTE.—These figures are taken from Table No. VI of the Census of 1881, and refer to the District as constituted in that year.

Table XI, showing BIRTHS and DEATHS.

1	2	3	4	5	6	7	8	9	10
Years.	TOTAL BIRTHS REGISTERED.			TOTAL DEATHS REGISTERED.			TOTAL DEATHS FROM		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Cholera.	Small-pox.	Fever.
1877	...	...	...	7,275	3,669	12,841	...	954	5,516
1878	...	...	...	13,111	11,513	20,623	...	4,040	10,582
1879	...	...	...	10,006	10,211	20,222	1,000	2,808	20,047
1880	11,983	8,383	19,667	13,172	10,617	23,219	1	469	17,017
1881	14,251	11,996	26,246	12,903	8,788	21,691	125	235	14,809
1882	13,560	11,334	25,394	10,003	8,886	19,769	3	643	12,422
1883	14,374	12,226	27,808	10,106	8,019	18,114	...	2,406	9,677
1884	14,754	12,997	27,751	10,049	10,611	24,060	1	2,016	25,145
1885	12,010	10,032	22,346	12,226	11,172	23,302	182	272	18,494
1886	14,601	12,612	27,114	11,461	9,714	21,178	...	607	18,435
1887	13,694	11,816	25,504	17,693	14,854	31,957	681	672	29,687
1888	12,629	10,081	20,990	11,711	9,693	21,314	...	750	18,941
Average	12,287	11,601	24,886	12,346	11,656	24,403	210	1,828	12,349

Table No. XI A, showing MONTHLY DEATHS from all CAUSES.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Month.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	Average.
January	2,043	1,718	1,734	1,800	1,234	2,079	1,678	1,354	2,930	1,703
February	1,898	1,900	1,297	1,382	1,555	1,827	1,520	1,478	1,757	1,661
March	1,014	1,082	1,010	1,731	1,385	1,375	1,680	1,770	1,471	1,633
April	4,330	1,025	1,341	1,426	1,560	1,411	1,679	2,423	1,631	1,369
May	1,053	1,465	1,824	1,017	2,032	1,932	1,717	2,410	1,031	2,511
June	1,065	1,026	2,112	2,164	1,660	1,968	1,700	2,139	2,168	1,947
July	1,304	1,431	1,331	1,508	1,849	1,029	1,428	1,819	1,698	1,469
August	1,032	1,286	1,023	1,701	2,325	1,860	1,717	2,343	1,677	1,702
September	2,005	2,370	2,015	1,115	3,067	2,089	1,780	2,422	1,750	2,288
October	2,105	1,092	1,882	1,228	9,019	1,341	1,088	2,404	2,041	2,202
November	1,488	2,130	1,665	1,387	2,099	2,768	2,100	2,069	1,701	2,793
December	2,286	2,316	1,945	1,433	3,031	2,314	2,181	2,601	1,712	2,261
Total	...	12,811	25,029	29,200	23,310	21,001	19,730	21,000	24,023	21,176	21,587	21,311	21,402

NOTE.—These figures are taken from Table No. III of the Sanitary Report.

Table No. XI B, showing MONTHLY DEATHS FROM FEVER

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Month.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	Average.
January ..	548	523	2,610	2,421	1,126	1,223	865	612	1,638	1,318	1,247	1,769	1,277
February ..	910	472	1,204	1,416	1,261	812	412	733	1,640	1,164	1,004	1,325	1,004
March ..	574	588	670	1,203	1,126	1,044	1,046	702	1,116	1,221	1,306	1,067	1,062
April ..	465	712	892	1,264	1,376	701	752	624	1,066	1,212	1,006	1,109	1,044
May ..	372	689	1,061	1,912	1,048	1,316	916	1,112	1,414	1,226	1,218	1,073	1,080
June ..	627	820	1,274	1,421	1,041	1,216	1,041	620	1,441	1,167	1,170	1,407	1,102
July ..	653	682	701	682	655	762	620	612	1,132	286	1,074	1,006	661
August ..	502	574	2,106	1,661	642	912	854	1,222	1,220	1,166	1,264	849	1,003
September ..	606	1,603	3,240	1,612	1,446	1,117	1,345	3,029	1,414	1,172	2,500	1,140	1,568
October ..	423	2,782	6,169	1,576	1,682	881	665	7,001	3,302	1,344	4,291	1,400	2,476
November ..	641	4,762	8,076	1,536	1,560	1,060	930	4,710	2,229	1,620	2,666	1,283	2,192
December ..	515	2,285	2,044	1,576	1,880	1,264	662	2,665	1,563	1,166	2,351	1,156	1,768
Total ..	6,516	16,492	20,047	17,017	14,686	12,423	9,977	25,140	15,464	15,453	23,267	11,012	16,840

Note.—These figures are taken from Table No. IX of the Sanitary Report.

Table No. XII, showing INFIRMITIES.

1		2		3		4		5		6		7		8		9	
		Inns.		Towns		Dues and Towns		Liquor									
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Albany	..	127	62	228	222	21	75	107	24								
Albany	..	127	74	241	1,004	137	64	150	10								
Albany	..	144	1	2,489	2,711	220	41	110	10								
Albany	..	1	1	30	36	..	..	2	..								
Albany	..	24	27	334	344	27	16	60	9								

Note.—These figures are taken from Tables Nos. XIV to XVII of the Census of 1881, and refer to the climatic conditions in that year.

Table No. XIII, showing EDUCATION.

1		2		3		4		5		6		7		8		9		10	
		Males.		Females.						Males.		Females.							
		Under 15 years of age.	15 years and over.	Under 15 years of age.	15 years and over.					Under 15 years of age.	15 years and over.	Under 15 years of age.	15 years and over.						
A. Religious.	Total	13,113	13,229	423	795	Muslims	..	911	1,615	49	37								
	Villages	1,344	2,222	27	27	Christians	..	1	29	7	16								
B. Other.	Total	1,777	3,007	1	22	Takhti Kharad	..	1,141	1,412	42	14								
	Villages	22	122	1	22	..	..	704	1,122	13	14								
C. Other.	Total	164	1,000	1	22	..	..	999	1,222	0	22								
	Villages	..	..	..	..	..	..	..	..	..	..

Notes.—These figures are taken from Table No. XLII of the Census of 1880, and refer to the districts as constituted at that time.

Table No. XIV, showing detail of SURVEYED and ASSESSED AREA.

[illegible]

Note.—The figures for 1934-35 are taken from Attachment III appended to the National Report of that year. Those for earlier years are taken from Table No. VIII of the Administrative Report, except those in the last column, which are derived from Table I of the same report.

Table No. XV, showing TENURES held direct from Government as they stood in 1883-89.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Native Tenures.	Karnal.				Panwar.				Karnal.				Total District.			
	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	
	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	Number of villages.	Number of holders or share-holders.	Area in acres.	
Villages held on <i>Landholder Tenure.</i>																
(1). By one owner	25	25	21,201	...	...	...	...	...	...	...	...	...	25	25	21,201	21,201
(2). By several owners	33	32	2,012	26	241	27,257	33	33	...	33	33	...	33	33	27,257	27,257
Villages held on <i>patildar tenure</i> ...	74	73	6,071	12	12	1,119	12	12	12,125	10	10	70,304	121	121	9,201	136,305
Do. <i>Wharfedale tenure</i> ...	200	200	27,161	126	126	27,512	216	216	260,771	146	146	711,039	732	732	1,400,717	1,400,717
Land from Government without right of ownership	2	2	2,531	...	...	...	...	...	...	0	0	0,000	2	2	0,000	0,000
Total	304	306	36,165	180	180	36,879	433	433	340,108	426	426	784,753	1,000	1,000	1,128,760	1,400,717

Note.—These figures are taken from Statement XI appended to the Revenue Report of 1883-84.

Table No. XVI, showing the cultivating occupancy of land in 1988-89

[illegible]

Description.	Area.		Area.		Area.		Area.	
	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.
1. Zaidi route...	63	1,692	1,763	2,012	1	...	1,768	4,634
2. Half produce or more ...	26	688	1,203	2,202	...	30	1,237	3,630
3. Two-fifths to half ...	27	1,700	1,102	2,072	...	...	1,129	4,972
4. One-third to two-fifths ...	614	12,663	...	...	129	1,124	738	14,017
5. Less than one-third ...	901	10,400	1,982	2,840	1,261	26,148	3,604	29,453
6. By fixed amount of produce ...	71	120	983	2,204	...	...	1,903	2,374
7. Total area under rents in kind ...	1,786	27,423	6,004	13,815	1,264	27,371	9,740	68,063
8. Total area paying cash rent ...	1,946	27,029	4,257	6,517	1,310	26,514	7,731	1,02,063
9. Total cash rent ...	2,418	44,972	40,000	10,000	1,242	29,140	43,000	86,267

DETAILS OF RENTS AND AREA ON WHICH PAID.

NOTE.—These figures are taken from Statement XII appended to the Revenue Report of 1889-90, but they appear to be inaccurate as the two parts of the statements do not agree.

Table No. XVII, AREA and INCOME of GOVERNMENT LANDS for 1888-89.

1	2	3	4	5	6	7	8	9	10
Total area for 1888-89.	Area held under revenue laws.		Remaining area.			Income for year ending 30th September 1889.			
	Cultivated during the year.	Uncultivated.	Under Forest Reserves.	Under other reserves.	Under Deputy Commissioner's management.	From lease for agriculture.	Other income.	Total income.	
18,470				...	18,470		1,841	1,841	

Table No. XIX, showing LAND ACQUIRED by GOVERNMENT between 1881-82 and 1889-90

1	2	3	4
Purpose for which acquired.	Area acquired.	Compensation paid in rupees.	Reduction of Revenue in rupees.
Roads	28-98	151	12
Canals, Bajubhis, &c.	1,840-66	27,625	311
Railways	1,411-79	1,23,897	1,163
Miscellaneous (Imperial House, Depdt. &c.)	2,049-47	74,222	948
Total	4,790-90	2,25,895	2,033

Table No. XXIII, showing OCCUPATIONS of MALES.

No.	Name of municipality.	Males aged 15 years of age.			No.	Name of municipality.	Males aged 15 years of age.		
		Total.	EN age.	Total.			Total.	EN age.	Total.
1	San Francisco	20,227	188,147	211,306	17	Agricultural Industries	894	1,411	2,077
2	San Francisco	20,227	188,147	211,306	18	Manufacturing	224	2,203	2,427
3	San Francisco	20,227	188,147	211,306	19	Commerce and other services	1,174	1,049	2,243
4	San Francisco	20,227	188,147	211,306	20	Transportation	441	2,171	2,612
5	San Francisco	20,227	188,147	211,306	21	Finance and insurance	442	1,131	1,573
6	San Francisco	20,227	188,147	211,306	22	Education, health, and other	880	240	1,120
7	San Francisco	20,227	188,147	211,306	23	Other	294	6,173	6,467
8	San Francisco	20,227	188,147	211,306	24	Manufacturing	224	2,203	2,427
9	San Francisco	20,227	188,147	211,306	25	Manufacturing	224	2,203	2,427
10	San Francisco	20,227	188,147	211,306	26	Manufacturing	224	2,203	2,427
11	San Francisco	20,227	188,147	211,306	27	Manufacturing	224	2,203	2,427
12	San Francisco	20,227	188,147	211,306	28	Manufacturing	224	2,203	2,427
13	San Francisco	20,227	188,147	211,306	29	Manufacturing	224	2,203	2,427
14	San Francisco	20,227	188,147	211,306	30	Manufacturing	224	2,203	2,427
15	San Francisco	20,227	188,147	211,306	31	Manufacturing	224	2,203	2,427
16	San Francisco	20,227	188,147	211,306	32	Manufacturing	224	2,203	2,427
17	San Francisco	20,227	188,147	211,306	33	Manufacturing	224	2,203	2,427
18	San Francisco	20,227	188,147	211,306	34	Manufacturing	224	2,203	2,427
19	San Francisco	20,227	188,147	211,306	35	Manufacturing	224	2,203	2,427
20	San Francisco	20,227	188,147	211,306	36	Manufacturing	224	2,203	2,427
21	San Francisco	20,227	188,147	211,306	37	Manufacturing	224	2,203	2,427
22	San Francisco	20,227	188,147	211,306	38	Manufacturing	224	2,203	2,427
23	San Francisco	20,227	188,147	211,306	39	Manufacturing	224	2,203	2,427
24	San Francisco	20,227	188,147	211,306	40	Manufacturing	224	2,203	2,427
25	San Francisco	20,227	188,147	211,306	41	Manufacturing	224	2,203	2,427
26	San Francisco	20,227	188,147	211,306	42	Manufacturing	224	2,203	2,427
27	San Francisco	20,227	188,147	211,306	43	Manufacturing	224	2,203	2,427
28	San Francisco	20,227	188,147	211,306	44	Manufacturing	224	2,203	2,427
29	San Francisco	20,227	188,147	211,306	45	Manufacturing	224	2,203	2,427
30	San Francisco	20,227	188,147	211,306	46	Manufacturing	224	2,203	2,427
31	San Francisco	20,227	188,147	211,306	47	Manufacturing	224	2,203	2,427
32	San Francisco	20,227	188,147	211,306	48	Manufacturing	224	2,203	2,427
33	San Francisco	20,227	188,147	211,306	49	Manufacturing	224	2,203	2,427
34	San Francisco	20,227	188,147	211,306	50	Manufacturing	224	2,203	2,427
35	San Francisco	20,227	188,147	211,306	51	Manufacturing	224	2,203	2,427
36	San Francisco	20,227	188,147	211,306	52	Manufacturing	224	2,203	2,427
37	San Francisco	20,227	188,147	211,306	53	Manufacturing	224	2,203	2,427
38	San Francisco	20,227	188,147	211,306	54	Manufacturing	224	2,203	2,427
39					55	Manufacturing	224	2,203	2,427
40					56	Manufacturing	224	2,203	2,427
41					57	Manufacturing	224	2,203	2,427
42					58	Manufacturing	224	2,203	2,427
43					59	Manufacturing	224	2,203	2,427
44					60	Manufacturing	224	2,203	2,427
45					61	Manufacturing	224	2,203	2,427
46					62	Manufacturing	224	2,203	2,427
47					63	Manufacturing	224	2,203	2,427
48					64	Manufacturing	224	2,203	2,427
49					65	Manufacturing	224	2,203	2,427
50					66	Manufacturing	224	2,203	2,427
51					67	Manufacturing	224	2,203	2,427
52					68	Manufacturing	224	2,203	2,427
53					69	Manufacturing	224	2,203	2,427
54					70	Manufacturing	224	2,203	2,427
55					71	Manufacturing	224	2,203	2,427
56					72	Manufacturing	224	2,203	2,427
57					73	Manufacturing	224	2,203	2,427
58					74	Manufacturing	224	2,203	2,427
59					75	Manufacturing	224	2,203	2,427
60					76	Manufacturing	224	2,203	2,427
61					77	Manufacturing	224	2,203	2,427
62					78	Manufacturing	224	2,203	2,427
63					79	Manufacturing	224	2,203	2,427
64					80	Manufacturing	224	2,203	2,427
65					81	Manufacturing	224	2,203	2,427
66					82	Manufacturing	224	2,203	2,427
67					83	Manufacturing	224	2,203	2,427
68					84	Manufacturing	224	2,203	2,427
69					85	Manufacturing	224	2,203	2,427
70					86	Manufacturing	224	2,203	2,427
71					87	Manufacturing	224	2,203	2,427
72					88	Manufacturing	224	2,203	2,427
73					89	Manufacturing	224	2,203	2,427
74					90	Manufacturing	224	2,203	2,427
75					91	Manufacturing	224	2,203	2,427
76					92	Manufacturing	224	2,203	2,427
77					93	Manufacturing	224	2,203	2,427
78					94	Manufacturing	224	2,203	2,427
79					95	Manufacturing	224	2,203	2,427
80					96	Manufacturing	224	2,203	2,427
81					97	Manufacturing	224	2,203	2,427
82					98	Manufacturing	224	2,203	2,427
83					99	Manufacturing	224	2,203	2,427
84					100	Manufacturing	224	2,203	2,427

NOTE.—Table August and October from Table No. XII is at the bottom. Degree of food, food = 100; the dots are as random and irregular.

Table No. XXIV. showing MANUFACTURES.

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Table No. XXVII, showing PRICE of LABOUR.

1	2	3	4	5	6	7	8	9	10	11	12	13
Year.	WAGES OF LABOUR PER DAY.				CASH PER DAY.		CARTEL PER DAY.		TOWNHALL PER DAY.		RATES PER DAY.	
	General.		Castles.									
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1865-66	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1866-67	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1867-68	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1868-69	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1869-70	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1870-71	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1871-72	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1872-73	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1873-74	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1874-75	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1875-76	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1876-77	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1877-78	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1878-79	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1879-80	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1880-81	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1881-82	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1882-83	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1883-84	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1884-85	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1885-86	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1886-87	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1887-88	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0
1888-89	0 0 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0	1 12 0	0 0 0	0 0 0	0 0 0

Note.—The figures for 1865-66 to 1888-89 are taken from Table No. 48 of the Administration Reports, those for 1889-90 to 1890-91 from Table No. 47, and those for the last three years from Table No. 46. The figures are revised quinquennially.

Table No. XXVIII, showing REVENUE COLLECTED.

1	2	3	4	5	6	7	8	9
Year.	Fixed Land Revenue.	Floating and Miscellaneous Land Revenue.	Tribute.	Local rates.	Excise.		Stamps.	Total Collections.
					Spirits.	Drugs.		
1865-66	4,53,700	2,307	—	—	4,508	4,502	38,514	7,04,994
1866-67	4,50,104	1,529	—	—	4,740	8,441	42,237	7,06,050
1867-68	4,45,222	3,511	—	—	5,014	8,502	40,514	7,03,252
1868-69	4,48,202	3,373	—	54,402	5,377	8,510	42,218	7,02,511
1869-70	4,47,326	2,562	—	54,813	5,408	8,403	42,838	7,02,950
1870-71	4,47,851	2,183	—	54,794	5,290	7,399	41,294	7,01,651
1871-72	4,47,023	3,210	—	54,783	4,440	9,891	38,198	7,00,032
1872-73	4,47,062	2,010	—	54,742	4,341	8,822	41,441	7,01,366
1873-74	4,47,300	2,219	—	55,342	4,264	9,032	41,000	7,00,000
1874-75	4,48,087	1,655	—	55,831	5,550	9,031	41,224	7,00,790
1875-76	4,47,247	27,938	—	55,346	4,500	9,032	38,224	7,00,000
1876-77	4,48,011	2,705	—	55,370	4,024	7,042	37,075	7,00,000
1877-78	4,47,521	47,008	—	55,322	4,017	8,774	38,804	7,00,705
1878-79	4,48,770	18,000	—	55,073	4,014	8,500	38,224	7,00,000
1879-80	4,49,081	2,007	—	55,037	7,748	10,414	40,000	7,00,000
1880-81	4,48,002	4,002	—	55,123	7,073	11,700	38,384	7,00,000
1881-82	4,48,000	1,775	—	55,771	6,639	10,225	38,000	7,00,000
1882-83	4,48,004	2,800	—	55,010	6,014	7,825	38,000	7,00,000
1883-84	4,48,001	2,800	—	55,001	7,002	10,405	38,000	7,00,000
1884-85	4,48,001	14,373	—	55,070	7,777	10,000	38,000	7,00,000
1885-86	4,48,001	10,647	—	55,100	8,502	9,000	38,000	7,00,000

Note.—The figures for the last two years are taken from Table No. XXIX and those for the other years from statements No. XLIV of the Administration Reports. The following terms are explained: Fixed Land, Floating and Miscellaneous Land, and Local rates. The figures for 1885-86 are the correct as at present constituted.

Table No. XXIX, showing REVENUE DERIVED from LAND.

1	2	3	4	5	6	7	8	9	10	11
Year.	Fixed land revenue (Kiladā)	PENGUENTING LAND REVENUE.				MUNDULCHOTA LAND REVENUE.				
		Due to advances on lands under high pasturing.	Waste land resumed.	Fluctuating season rental of Nidali villages.	Total.	During year.		Sale of wood.	Rajil.	Total.
						By enumeration.	By houses.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1885-89	9,48,043	23	...	11,826	11,917	..	1,104	...	-	6,700

Table No. XXX, showing ASSIGNED LAND REVENUE in 1890-91.

1	2	3	4	5	6	7	8	9	10
Total Area and Revenue Assigned.									
Village.		Proportional portion of Village.		Patta.		Total.		In perpetuity free of conditions.	
Area.	Jama.	Area.	Jama.	Area.	Jama.	Area.	Jama.	Area.	Jama.
229,458	122,903	27,842	9,001	8,603	16,011	265,929	2,9,272	243,534	153,754
11	12	13	14	15	16	17	18	19	20
DISTRIBUTION OF AREA AND JAMA.									
In perpetuity subject to conditions.		For life or term.		At pleasure of Government.		For term of Settlement.		Pending orders of Government.	
Area.	Jama.	Area.	Jama.	Area.	Jama.	Area.	Jama.	Area.	Jama.
6,582	4,350	2,447	1,868	2,744	15,871	220	319	...	110
21	22	23	24	25	26	27	28	29	30
NUMBER OF HOLDERS.									
In perpetuity free of conditions.	In perpetuity subject to conditions.	For life or term.	At pleasure of Government.	For term of Settlement.	Pending orders of Government.				
2,793	450	301	125	207	2				

Table No. XXXI, showing BALANCES, REMISSIONS and TAKAVI

Year.	Balances of Land revenue in rupees.		Remissions of fixed demand on account of land revenue, droughts, &c., in rupees.	Takavi advances in rupees.
	Fixed revenues.	Fluctuating and miscellaneous revenues.		
1885-86	13,876			3,500
1886-87	17,731		200	53,611
1887-88	4,917			1,513
1888-89	437			1,785
1889-90	1,072			420
1890-91	543		1,000	943
1891-92	337			475
1892-93	1,233	8		900
1893-94	1,578	72		131
1894-95	28,147	170		1,700
1895-96	62,500	12,709	20	45,251
1896-97	12,000	93		29
1897-98	10,218	2,750		602
1898-99	400	22		201
1899-00	337	126		1,050
1900-01	67,136	68		3,570
1901-02	31,933	72		15,770
1902-03	6,540	3		1,130
1903-04	7,531	3		1,375
1904-05	4,233			3,070
1905-06	360	410		2,050

NOTE.—The figures are taken from the Statements appended to the Annual Land Revenue Report. Those for last two years refer to the agricultural year Kharr—Rabi.

Table No. XXXII, showing SALES and MORTGAGES of LAND.

YEAR.	SALES.			MORTGAGES.			REDEMPTION OF MORTGAGES.			AREA MORTGAGED WITH ORDINARY MORTGAGES.
	ACRES.	REVENUE.	PURCHASE MONEY.	ACRES.	REVENUE.	MORTGAGE MONEY.	ACRES.	REVENUE.	MORTGAGE MONEY.	
1895-96	2,971	2,874	64,155	7,002	2,869	22,129	4,121	2,229	94,408	40,374
1896-97	2,447	2,190	60,829	7,741	2,990	21,241	2,421	1,751	66,991	37,283
1897-98	2,240	2,068	59,494	7,342	2,473	23,900	1,141	2,224	27,113	47,629

Note.—These figures are taken from Statements X A and XI of Annual Revenue Reports.

Table No. XXXIII, showing SALE of STAMPS and REGISTRATION of DEEDS.

YEAR.	THE NEW YORK SALE OF STAMPS.				OPERATIONS OF THE REGISTRATION DEPARTMENT.							
	Stamp sold in rupees.		No. stamps sold.		No. of deeds registered.				Value of properties entered in rupees.			
	Actual.	Not actual.	Actual.	Not actual.	Transferring immovable property.	Transferring movable property.	Money mortgage.	Total of kinds.	Immovable property.	Movable property.	Money mortgage.	Total value of all kinds.
1895-96	36,024	12,772	24,160	12,290	1,105	42	252	1,454	3,61,273	71,290	44,144	4,76,707
1896-97	25,300	13,111	22,211	12,023	1,147	54	147	1,348	4,99,290	34,444	22,250	5,56,084
1897-98	22,094	12,300	20,744	10,915	1,003	54	150	1,207	2,61,744	19,200	14,400	2,95,344
1898-99	21,000	11,974	22,000	11,422	974	28	122	1,124	4,27,340	18,100	14,270	4,60,000

Note.—These figures are taken from Appendix A to Comptroller, and Tables VI and VII of the Registration Report.

Table No. XXXIII A, showing REGISTRATIONS.

	Number of Deeds registered.					
	1895-96.			1896-97.		
	Completed per cent.	Approved.	Total.	Completed per cent.	Approved.	Total.
Register, Karnal	—	—	—	—	—	—
Sub-Register, Karnal	—	—	—	—	—	—
Do, Yamunot Sahel	—	—	—	—	—	—
Do, Panchet	—	—	—	—	—	—
Do, Mathura	—	—	—	—	—	—
Do, Arunachal	—	—	—	—	—	—
Total of districts	—	—	—	—	—	—

Note.—These figures are taken from Table No. I of the Registration Report.

Table No. XXXIV, showing LICENSE TAX COLLECTIONS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR.	NUMBER OF LICENSES GRANTED IN EACH CLASS AND HOURS.											Total number of Revenue.	Total amount of tax.	Number of villages in which licenses granted.
	Class I.				Class II.				Class III.					
	1	2	3	4	5	6	7	8	9	10	11			
	Rs. 5000	Rs. 3000	Rs. 1000	Rs. 500	Rs. 75	Rs. 50	Rs. 25	Rs. 10	Rs. 5	Rs. 2	Rs. 1			
1874-75	3	4	2	10	160	800	1,300	2,500	4,000	2,000	27,500	211
1875-76	1	1	24	100	250	1,400	2,200	2,000	2,200	24,000	200
1876-77	1	1	18	100	400	..	..	..	..	10,000	200
1877-78	7	17	100	700	..	..	..	..	21,000	200
Tabled Revenue 1878-79
Tabled Revenue 1879-80
Tabled Revenue 1880-81
Tabled Revenue 1881-82

Table No. XXXV, showing EXCISE STATISTICS.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR.	FERMENTED LIQUORS.					INTERMEDIATE LIQUORS.					TOTAL REVENUE FROM			
	Number of licenses granted.	No. of Houses licensed.		Consumption in Gallons.		No. of Houses licensed.		Consumption in Gallons.			No. of Houses licensed.	Lungs.	Total.	Total.
		Country & Village.	Houses.	Total.	Country & Village.	Total.	Per capita.	Country & Village.	Total.	Per capita.				
1874-75
1875-76
1876-77
1877-78

NOTE.—These figures are taken from Tables appended to the Annual Report.

Table No. XXXVI, showing DISTRICT FUNDS.

1	2	3	4	5	6	7	8	9	10	11
YEAR.	Annual Income in Rupees.			Annual Expenditure in Rupees.						
	Revenue.	Miscellaneous.	Total Income.	Establishment.	District police, and other administrative.	Education.	Medical.	Miscellaneous.	Public Works.	Total expenditure.
1874-75	61,000	1,100	2,000	0,000	2,000	..	10,000	12,000
1875-76	60,400	1,400	1,700	7,100	4,000	..	45,000	50,000
1876-77	52,000	1,200	1,000	0,000	0,000	..	57,000	58,000
1877-78	70,000	2,000	0,000	0,000	4,000	..	55,000	59,000
1878-79	62,100	0,000	0,000	10,000	2,000	..	34,000	36,000
1879-80	..	78,000	900	70,000	2,700	0,000	0,000	..	55,000	55,000
1880-81	..	71,000	0,000	71,000	2,800	0,000	0,000	..	01,000	20,000
1881-82	..	70,100	0,000	70,100	2,000	0,000	0,000	..	20,000	22,000

NOTE.—These figures are taken from Appendices A and B to the Annual Report of the District Fund Commission.

Table No. XXXVII, showing GOVERNMENT AIDED SCHOOLS.

YEAR.	HIGH SCHOOLS.												GRADUATE SCHOOLS.												FARMY SCHOOLS.											
	Elementary school.				Vocational school.				Prepared.				Vocational school.				General school.				Vocational school.				General school.				Vocational school.							
	Enrollment.		Total.		Enrollment.		Total.		Enrollment.		Total.		Enrollment.		Total.		Enrollment.		Total.		Enrollment.		Total.		Enrollment.		Total.									
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.								
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Figure for Boys.

[illegible]

Figures for Girls.

Year	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

1990-1991) (compensation) and in 1991 that the average profit was 17.5% (1990-1991) (compensation).

Table No. XXXVIII, showing the WORKING of DISPENSARIES.

NAME OF DISPENSARY.		NUMBER OF PATIENTS TREATED.																
		CHILDREN.																
		WOMEN.																
CLASS OF PATIENTS.		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.		
Karnal	C. H.	4,834	5,507	6,053	6,452	7,117	1,278	1,110	1,807	1,867	1,764	803	699	699	937	1,104		
Kanthal	Inf.	4,206	4,044	3,075	4,025	4,409	416	1,404	1,448	1,171	1,215	700	1,360	1,058	857	1,000		
Kanthal	Inf.	4,900	4,941	6,345	4,070	6,022	1,831	1,600	2,571	1,924	1,833	887	1,612	1,250	831	904		
Kanthal	Inf.	1,127	2,430	2,004	2,504	2,748	907	1,154	1,418	1,600	1,450	639	908	643	785	913		
Kanthal	Inf.	1,890	2,456	2,011	2,586	2,177	745	755	916	1,000	887	617	940	674	631	671		
Kanthal	Inf.	664	2,137	0,120	2,376	2,455	359	1,032	1,101	617	768	115	749	474	716	757		
Total		18,074	24,406	23,240	22,716	24,018	5,001	6,041	9,075	7,080	7,922	2,807	5,310	0,030	4,062	4,985		
NAME OF DISPENSARY.		Total Patients.						Foster Patients.						Expenditure in Rupees.				
		1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.		
Karnal	C. H.	6,957	7,755	8,494	9,044	9,675	156	821	444	545	549	2,125	3,003	5,677	2,692	2,077		
Kanthal	Inf.	9,059	8,386	6,811	6,030	6,780	335	950	723	905	449	1,494	1,454	1,251	1,251	7,065		
Kanthal	Inf.	7,004	7,152	10,072	7,431	7,719	412	409	364	535	502	1,091	1,256	1,216	1,251	1,251		
Kanthal	Inf.	6,672	4,504	4,894	4,056	5,120	126	162	184	172	230	1,270	1,356	1,061	1,030	805		
Kanthal	Inf.	8,265	2,904	0,019	8,069	8,730	173	137	133	127	137	1,041	1,041	825	752	854		
Kanthal	Inf.	1,000	4,949	5,263	3,008	3,004	13	67	86	80	86	4,058	771	678	804	821		
Total		28,382	50,940	40,890	35,093	37,383	1,812	1,801	1,469	1,744	1,622	11,025	20,314	14,850	7,061	15,365		

NOTE.—These figures are taken from Tables Nos. II, IV and V of the Dispensary Report.

Table No. XXXIX, showing CIVIL and REVENUE LITIGATION.

YEAR	Number of Civil Suits concerning					Value or value of goods concerning				Number of conversion cases.
	1	2	3	4	5	Total.	Land.	Other matters.	Total.	
Money or movable property.	Land and tenancy rights.	Land and revenue, and other matters.								
1878	3,046	278	267	4,691	1,790	2,901	3,095	8,432		
1879	3,756	479	306	4,541	13,785	3,14,822	3,33,917	10,820		
1880	4,585	314	300	4,872	4,28,049	3,02,177	7,30,226	10,023		
1881	3,362	169	406	4,140	18,473	4,92,080	5,11,195	8,438		
1882	3,207	260	472	3,940	18,010	2,93,024	2,09,234	5,059		

NOTE.—These figures are taken from Tables Nos. VI and VII of the Civil Reports for 1878 to 1882 and Nos. II and III of the Reports on Civil Justice for 1881 and 1882.

TABLE XXXIX in Settlement Courts are embodied from these volumes, no details of the value of the property being available.

Table No. XL, showing CRIMINAL TRIALS.

DETAILS.	1					2					3					4					5										
	1878.					1879.					1880.					1881.					1882.										
Brought to trial	2,624	2,003	2,601	2,400	2,650	2,624	2,003	2,601	2,400	2,650	2,624	2,003	2,601	2,400	2,650	2,624	2,003	2,601	2,400	2,650	2,624	2,003	2,601	2,400	2,650	2,624	2,003	2,601	2,400	2,650	
Discharged	100	175	100	100	100	100	175	100	100	100	100	175	100	100	100	100	175	100	100	100	100	175	100	100	100	100	175	100	100	100	
Acquitted	200	245	200	200	200	200	245	200	200	200	200	245	200	200	200	200	245	200	200	200	200	245	200	200	200	200	245	200	200	200	
Committed	1,714	1,583	1,714	1,700	1,750	1,714	1,583	1,714	1,700	1,750	1,714	1,583	1,714	1,700	1,750	1,714	1,583	1,714	1,700	1,750	1,714	1,583	1,714	1,700	1,750	1,714	1,583	1,714	1,700	1,750	
Committed or referred	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	
Remanded (regularly)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warrant cases (irregularly)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total cases disposed of	3,450	4,124	3,450	3,400	3,450	3,450	4,124	3,450	3,400	3,450	3,450	4,124	3,450	3,400	3,450	3,450	4,124	3,450	3,400	3,450	3,450	4,124	3,450	3,400	3,450	3,450	4,124	3,450	3,400	3,450	
Death	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Transportation for life	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Penal servitude
Fine under Rs. 10	142	180	142	140	142	142	180	142	140	142	142	180	142	140	142	142	180	142	140	142	142	180	142	140	142	142	180	142	140	142	
" 10 to 50 rupees	261	160	261	260	261	261	160	261	260	261	261	160	261	260	261	261	160	261	260	261	261	160	261	260	261	261	160	261	260	261	
" 50 to 100 "	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
" 100 to 200 "	22	4	22	22	22	22	4	22	22	22	22	4	22	22	22	22	4	22	22	22	22	4	22	22	22	22	4	22	22	22	
" 200 to 1,000 "	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Over 1,000 rupees	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Imprisonment under 6 months	282	180	282	280	282	282	180	282	280	282	282	180	282	280	282	282	180	282	280	282	282	180	282	280	282	282	180	282	280	282	
" 6 months to 2 years	240	160	240	240	240	240	160	240	240	240	240	160	240	240	240	240	160	240	240	240	240	160	240	240	240	240	160	240	240	240	
" over 2 years	20	10	20	20	20	20	10	20	20	20	20	10	20	20	20	20	10	20	20	20	20	10	20	20	20	20	10	20	20	20	
Whipping	210	112	210	210	210	210	112	210	210	210	210	112	210	210	210	210	112	210	210	210	210	112	210	210	210	210	112	210	210	210	
And besides of the above
Recommendation to keep the young
Five sentences for good behaviour

NOTE.—These figures are taken from Statements Nos. III and IV of the Criminal Reports for 1878 to 1880, and Nos. IV and V of the Criminal Reports for 1881 and 1882.

Table No. XII, showing POLICE INQUIRIES.

1	Number of cases reported to the										Number of persons concerned as										Number of persons convicted				
	1877.					1878.					1879.					1880.					1877.				
	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
NATURE OF OFFENCE.																									
Bribe or unlawful assembly	0	0	2	3	9	101	180	123	28	69	82	11	12	12	12	12	12	12	12	12	12	12	12	12	12
Murder and attempts to murder	4	7	2	6	6	6	17	7	15	18	11	6	6	6	6	11	11	11	11	11	11	11	11	11	11
Total serious offences against the person	40	24	28	21	33	73	91	50	10	52	21	20	30	30	30	21	21	21	21	21	21	21	21	21	21
Abuse of power or assault on person	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total serious offences against property	100	250	157	152	113	216	252	161	100	90	156	127	97	98	127	156	127	97	98	127	156	127	97	98	127
Total police offences against the person	30	11	8	27	24	31	11	19	10	22	17	0	0	21	21	17	0	0	21	21	17	0	0	21	21
Criminal cases	101	181	104	77	77	146	222	160	72	77	80	106	76	11	11	80	106	76	11	11	80	106	76	11	11
Total serious offences against property	481	760	460	303	222	474	716	424	252	234	329	317	201	243	329	329	317	201	243	329	329	317	201	243	329
Total cognizable offences	571	1,107	610	417	285	602	1,127	623	410	383	616	517	401	384	616	616	517	401	384	616	616	517	401	384	616
Offence, unlawful assembly, giving	0	1	1	3	1	12	11	2	14	0	7	11	2	7	7	7	11	2	7	7	7	11	2	7	7
Offences relating to marriage	2	0	3	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total non-cognizable offences	47	11	22	62	66	126	80	60	24	14	79	63	51	123	123	79	63	51	123	123	79	63	51	123	123
Grand Total of Offences	1,091	1,122	693	629	623	1,068	1,249	709	624	597	1,265	1,080	855	807	1,000	1,265	1,080	855	807	1,000	1,265	1,080	855	807	1,000

Note.—These figures are taken from Statement A of the Police Report.

Table No. XLII, showing CONVICTS in GAOL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
YEAR.	No. in goal at beginning of the year.		No. imprisoned during the year.		Religion of convicts.			Previous occupation of able convicts.					
	Male.	Female.	Male.	Female.	Muslims.	Hindus.	Buddhist and Jains.	Official.	Professional.	Service.	Agricultural.	Commercial.	Industrial.
1877-78	204	0	514	36	252	510		15	...	...	450	...	...
1878-79	330	8	703	54	331	670		...	...	91	628	...	...
1879-80	285	19	440	14	66	149		3	...	...	127	49	...
1880-81	200	0	378	27	82	155		2	4	102	110	...	...
1881-82	257	10	323	80	89	131		...	...	74	108	...	...

YEAR.	15	16	17	18	19	20	21	22	23	24	25	26
	Length of sentence of convicts.							Previously convicted.			Penal results.	
	Under 6 months.	6 months to 1 year.	1 year to 2 years.	2 years to 3 years.	3 years to 4 years.	Over 4 years and transportation.	Death.	Once.	Twice.	More than twice.	Gen. of main-tenance.	Results of convict labour.
1877-78	161	208	542	100	32	16	4	41	10	13	12,911	2,851
1878-79	294	330	420	25	13	0	...	42	16	13	16,823	1,016
1879-80	10	30	104	14	1	...	...	20	4	7	17,040	4,090
1880-81	68	55	85	25	3	1	...	29	4	4	12,107	8,253
1881-82	29	41	71	25	...	1	1	19	5	3	11,064	2,739

NOTE.—These figures are taken from Tables Nos. XXVIII, XXIX, XXX, XXXI, and XXXVII of the Administration Report.

Table No. XLIII, showing the POPULATION of TOWNS.

1	2	3	4	5	6	7	8	9	10
Taluk.	Town.	Total population there.	Hindus.	Sikhs.	Jains.	Muslims.	Other religions.	No. of occupied houses.	Persons per 100 occupied houses.
Karnal	Karnal	20,130	16,215	110	313	3,592	43	4,070	629
	Karjpara	4,726	2,174	...	1	2,550	...	879	239
Pandit	Pandit	20,022	7,285	1	763	10,957	2	2,062	849
Kaithal	Kaithal	11,754	6,997	171	134	3,852	...	2,802	644
	Devas	5,717	3,262	11	...	2,454	...	287	1,093
	Phanda	4,977	3,043	9	1	1,930	...	842	1,453

NOTE.—These figures are taken from Table No. IX of the Census Report of 1881.

Table No. XLIV, showing BIRTHS and DEATHS for TOWNS.

1	2	3	4	5	6	7	8	9	10	11	12	13
Towns.	Sex.	Total popu- lation by the Census of	Total births registered during the year.					Total deaths registered during the year.				
		1875.	1877.	1878.	1879.	1880.	1881.	1877.	1878.	1879.	1880.	1881.
Karnal	Male	17,635	439	465	534	512	447	525	525	1,085	608	590
	Female	14,320	414	364	379	243	374	492	779	1,020	475	510
Katihar	Male	8,048	282	269	104	139	188	145	400	268	182	180
	Female	7,751	252	148	74	110	151	142	403	284	163	165
Meerut	Male	12,494	575	500	393	414	381	405	490	543	403	394
	Female	12,631	532	445	319	421	322	350	430	553	345	347

NOTE.—These figures are taken from Table No. LVII of the Administrative Report.

Table No. XLV, showing MUNICIPAL INCOME.

1	2	3	4	5	6
NAME OF MUNICIPALITY.	Karnal.	Panipat.	Katihar.	Pantn.	Kaajpore.
Class of Municipality	II.	III.	III.	III.	III.
1870-71	16,270	12,421	7,834	1,096	571
1871-72	16,327	8,852	8,424	1,110	587
1872-73	14,215	10,613	5,235	1,154	1,177
1873-74	13,650	9,925	4,608	1,400	1,725
1874-75	12,702	11,469	6,538	1,200	1,467
1875-76	15,314	9,352	7,500	1,426	1,560
1876-77	16,302	10,610	8,133	1,124	1,636
1877-78	16,460	10,037	8,480	1,300	1,643
1878-79	15,631	14,014	8,300	1,280	1,616
1879-80	15,078	16,220	11,400	2,163	1,701
1880-81	15,013	21,371	12,000	2,018	1,720
1881-82	19,081	20,000	14,179	2,312	1,600

Table No. XLVI, showing DISTANCES.

[illegible]

APPENDIX.

Growth of irrigation from the Western Jamna Canal, and extension of saline efflorescence and swamp.

The figures below show the irrigation from the whole of the Western Jamna Canal, from 1819 to 1840, no separate figures being available for the district. The Delhi Branch was opened in 1820, but the small supply of water carried by it may be estimated from the fact that till 1826, at least, no bridges were needed, as a loaded village cart could be driven through it without inconvenience. In 1826 the Rohtak Branch was opened as far as Gohana; but the irrigation from both these canals, though steadily increasing up to 1833, was still very limited, and in 1831 the small use made of the water was attributed to "the uncertainty of the supply, the insufficiency of the outlets permitted for each village, and the high rates charged" viz., Rs. 11-2 per acre.

Early Irrigation from Western Jamna Canal.

Year.	Amount of water- rate in rupees.	Area calculated at average rate of Rs. 11-2 per acre.	REMARKS.
1819-20	870	1,253	Main line and Delhi Branch opened.
1820-21	14,010	20,888	
1821-22	21,019	33,279	Drought.
1822-23	21,459	30,749	
1823-24	26,015	31,000	Famine.
1824-25	20,047	38,165	
1825-26	48,374	69,229	Rohtak Branch opened.
1826-27	23,270	35,690	
1827-28	24,101	48,063	
1828-29	52,953	76,882	
1829-30	53,373	76,186	
1830-31	57,700	82,654	
1831-32	51,000	73,100	Famine.
1832-33	63,805	104,260	
1833-34	1,00,781	2,13,200	
1834-35	1,14,083	1,60,425	
1835-36	1,10,003	1,58,404	Drought.
1836-37	1,23,177	2,10,501	
1837-38	2,72,376	2,90,316	Rain scanty.
1838-39	1,69,610	2,71,701	
1839-40	2,24,290	3,31,531	Constant system introduced.
1840-41	2,35,815	3,01,537	
1841-42	2,40,000	3,70,979	
1842-43	2,70,309	4,00,337	

Appendix.

Growth of Irrigation.

Appendix.
Growth of Irrigation.

The terrible famine of 1833-34 gave a new turn to the irrigation question. This famine fell with perhaps even greater severity upon the Bāngar than upon the Khāḍar; for the canal failed, while the people of the latter had at least their wells, so long as the cattle had strength to work them. The distress, severely described at page 23, paralysed for a whole year the agriculture of the tract. But this very distress was the means of securing at one bound an advance in prosperity which might otherwise have taken many years to attain. The canal presented at least a possibility of salvation; and its officers had no longer reason to complain that the water they proffered was not accepted. Irrigating villages enlarged and multiplied their channels; numerous other villages which had never before irrigated dug cuts for themselves, often many miles in length, and the area irrigated was limited only by the means of supply, instead of, as heretofore, by the demand. Stronous efforts were made to increase that supply, and the irrigation of 1833-34 was 2½ times that of 1832-33, while the construction of the Butān Branch extended the water to a part of the tract which it had previously been unable to reach. The means of irrigation, once called into existence by the pressure of a water-famine, were still available when the urgent necessity had passed away; and the irrigation never again fell to its former level. The failure of the rains in 1836-37 raised it above the figures of 1832-33, and the continuance of the drought caused the irrigation in 1837-38 to rise to what Captain Baker, the Superintendent of Canals, declared in 1841 to be the maximum capacity of the channels as they then stood. But the supply was still uncertain, and apt to fail when most needed. The whole system of canals and their subsidiary channels had been called on to perform a task far in excess of that for which they had been designed; the call had been urgent, and the necessary adaptations had been made as best they could, and on the spur of the moment. The arrangements at the heads for supplying the water from the river were also very imperfect; and too often the canal broke down just when there was the greatest need for its services.

Year.	Acres.
1836	48,744
1837	66,172
1838	121,267
1839	37,434
1840	77,077
1841	62,900
1842	61,443
1843	67,481

The table on the opposite page shows the irrigation between 1865 and 1875. The figures refer only to the portion of the district settled by Mr. Ibbotson; but the canal irrigation excluded is insignificant in amount. Since that date the area charged with water-rate in the Karnāl District has been as shown in the margin.

Defect of the canal system

When the canal was re-opened, every facility was offered to such villages as would make use of the water. In most cases an old imperial water-cut still existed, which they were allowed to clear out and use; and when there was none, they simply made themselves a channel straight from the nearest point on the canal from which

Appendix.**Growth of irrigation.****Defects of the canal system.**

water would flow to their fields. As the demand for water has extended, certain large distributaries have been constructed, which have absorbed many of the early channels, while others have been deepened, enlarged and extended. The main canals, too, have been deepened and their banks raised, till the water touches the crown of the arches in the bridges. Most of these extensions were made under pressure of urgent need, and therefore without interrupting the supply, and too hurriedly to admit of due consideration being given to them, or of the best possible scheme being selected. Thus, while the faulty alignment of the old canal and channels is still followed, their carrying capacity has been so increased that in most parts the surface level of the water, and in some places the bed of the canal, is above the surrounding country, and the water is thus forced into the sub-soil by hydraulic pressure.* A great deal of the canal is, of course, in embankment; and in many of the secondary channels silt obstructions, often dating from the times of the Mughals, have raised the banks to a height of 12 and 15 feet; and this system of embankments has been constructed with so little reference to the natural drainage that it intercepts all the drainage lines of the tract, and throws back the surface water over the surrounding country. This is especially the case in Karnāl Bāngar, where the canal runs in embankment below the Sardak step in the Bāngar, and the Khādar bank in the Khādar, and holds up all the drainage which runs southwards from the highlands. The highland distributaries which cross the lowland to reach the villages on the crown of the slopes, act as so many dams above which huge swamps form, while the pools of the old channel in which the canal used to run, and which are cut off by it now that it has been straightened, act as breeding beds for crocodiles and malarin.

Excessive irrigation practised by the people.

But if the defects of the means of supply have given rise to evils, the pernicious system of irrigation pursued by the people, coupled with its rapid extension has increased those evils a hundred fold. While some 8 per cent. of the central canal tract is permanently under water, 40 per cent. of the whole area and 80 per cent. of the cultivated area is irrigated, much of it twice in the year, much of it for rice cultivation, and almost all of it every year without intermission. Now canal irrigation is not like well irrigation. When every drop of water used is represented by additional labour to man and

* The total irrigation from Western Jamna Canal at various periods is shown below:—

Feet.	Acres.	Feet.	Acres.
1837	156	1857	151
1828	86,186	1830	529
1839	76,486	1835	603
1844	221,541	1870	961
1870	400,542	1874	1010
1878	507,074		

And the bottom from which these depths are measured has been raised considerably during the period over which these figures extend.

best, the greatest economy is exercised; not so when a stroke of the spade is sufficient to set flowing an unlimited supply. In the former case the cultivator divides his fields into small beds which are irrigated successively, and practically answer the purpose of terraces economising the water, not only by reducing the depth needed, but also by confining the area of already watered ground over which the water has to pass. On the canal, on the other hand, if a field is six inches lower at one end than at the other, a seven-inch bank is made round it, and the whole field put under an average of four inches of water, in order to get one inch at the top; each spot in the field, after receiving its water, is still passed over by the water which goes to spots beyond it; and if a leak occurs in the channel, or if a bullock breaks down the side, the water is allowed to run to waste for hours before any trouble is taken to remedy the evil. The duty of the canal-water for 1874-75 was 74 acres in the autumn, and 80 in the spring per cubic foot of supply. Supposing that the loss by evaporation and waste is counterbalanced by the fact that much of this land is watered in both seasons, this represents a supply of 62 inches in the year. A well working 13 hours a day for 160 days in the spring and 80 days in the autumn, and watering 15 acres, would have to supply at this rate 6,067 gallons per hour. Moreover, the well water is itself drawn from the subsoil supply, and all that is lost by evaporation during the process of irrigation is so much lost to that supply; while in canal irrigation, all that is *not* so lost, is so much *added* to that supply.

The result is that the whole country is water-logged by the canal-water being forced into it from below, while the cultivator drenches it from above. And when the rain comes in tropical abundance, instead of finding a thirsty soil ready to drink up the greater part, it falls upon a country already saturated with water, and the whole volume is thrown into shallow drainage lines with an almost imperceptible slope. These again, being barred at intervals by high banks crossing them at right angles, silt up, and the water is thrown back and covers the country for miles. Thus, when the rainfall has been unusually heavy for several years in succession, there are hundreds of acres in which the autumn crop, if it can be sown at all, is almost or altogether drowned; while such little land as appears above the water soon enough to plough for the spring crop is so moist that the yield is barely worth the trouble of gathering. And there is a still larger area in which, after heavy rain, the water stands some inches deep for three or four days at a time, to the great injury of the crop. No means exist of carrying off the water, for, as the Chief Engineer reported in 1867, "the level of the water in the canal can very seldom be reduced in the rainy season, just when the drainage of the swamps is most needed; as even if the supply at the head be shut off, the quantity of water draining into the channel above Karnal is sufficient and some-
times more than sufficient, to fill the channel at and below, "that point."

Appendix.

Growth of Irrigation.

Extensive irrigation practiced by the people.

Bearing swamps.

Appendix.

Growth of Irrigation.

Resulting saline effluorescence.

Nor is it only a swampage that results from the causes above mentioned; for if it were higher land might be cultivated as the lower became unculturable. For countless ages the rain falling upon the soil has washed down with it more or less of its saline constituents into the spring water below. That water now has been raised to within such a short distance of the surface that it can rise to it by capillary attraction, carrying with it salts which have been thus accumulated. As fast as it reaches the surface, wherever the cultivation or the shade of a thick tree does not interfere with radiation and evaporation, the fierce heat of an Indian sun concentrates the solution. Where the water is so near the surface, and the surface moisture so great that diffusion can take place, and the water thus made heavier can return by the way it came, no great harm is done. But over most of the area this is not the case, and the water evaporating leaves the salt deposited; and this process, repeated year after year, eventually covers the soil with a flocculent layer of alkaline salts, lying like fresh-fallen snow, often three or four inches thick. The first rain that falls is not heavy enough to reach the main drainages, and sinking in is *aita* carried with it the salts; thus preserving them by a sort of occlusion from the mechanical action of heavy rain, to reappear when the next sunny day restores the process of evaporation.*

The salts lie thick round the edges of the cultivation, and, notwithstanding the bank made to keep them out, are carried over the boundary by the wind and rain and deposited in the hollows of the out-lying fields. When once cultivation is thus destroyed, the capillary process immediately begins, and thus the evil is gradually eating its way from outside into the still fertile fields, every inch gained being made the stepping-stone for further inroads. The saline water and such grass as is able to spring up in the salt-impregnated land give the cattle diarrhoea and glandular affections, enfeeble, and eventually kill them; while the large area which is each year covered with water and aquatic plants in the rainy season, and dried up by the sun during the remainder of the year, exhales from its putrefying vegetation a malarial which poisons the blood of the villagers, renders them impotent, and kills them by fever and spleen disease.

Effects upon health and prosperity.

The epidemic of 1841-43, which assumed special virulence in the canal tract, and caused the abandonment of Karnál as a cantonment, led to the appointment of a Committee by the Supreme Government to investigate the matter. Their report was published at Agra in 1847. In 1867 Surgeon Major Adam

* An enormous amount of information and discussion on the subject of salt, its origin, formation, effects and cure, will be found in the report of the Allgah Bah Committee of 1870, in Selections No. XLII (1884) from Government of India correspondence, P. W. D., and in the printed correspondence with Board of Revenue, N. W. P., No. 231 of 21st October 1874 and Government, N. W. P. Revenue Department, India Nos. 61-62 of May 1877.

Taylor was appointed to make a further inquiry; and his report was published as Selection No. VI of 1870 from Records of Government Punjab. Some of the figures of both reports are summarised in the Table given below.

Appendix.

Growth of Irrigation.

Effects upon health and prosperity

Dr. Taylor shows that 60 to 80 per cent. of the inhabitants in many of the Bangar villages were suffering from enlarged spleen and yearly attacks of fever. He speaks of the "languor and depression of manner, and stunted and shrivelled forms of the inhabitants of the villages in close proximity" to the swamps; and of the absence of "the strength to repair damages or to preserve comfort." The heavy rains of 1871-76 rendered the sanitary condition of the canal villages worse than ever.

In 1856 the people of many of the worst villages abandoned their homes and fled to Jind; and Mr. Sherer was deputed to inspect the tract. His admirable report was submitted in 1857, and is printed as part of Selections No. XLII (1864) from Government of India correspondence, P. W. D., pages 4-15. He showed that the water-level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface; that the fertility of the soil had been very generally diminished; and that the evil had not nearly reached its limits, but must necessarily continue to spread almost indefinitely.

Statistics of Disease on Western Janna Canal.

Locality.	Distance from Canal.	Depth of water below surface.	Percentage of large spleens.	PERCENTAGE SUFFERING FROM FEVER IN		
				1864.	1865.	1866.
REPORT OF 1867.						
WESTERN JANNA CANAL.						
Dehli Branch ...	Within half a mile...	11	68	51	40	41
	More than a mile ...	18	49	51	47	40
Bohtak Branch ...	Within half a mile ...	35	44	47	38	37
	More than a mile ...	48	29	34	34	37
Butana Branch ...	More than half a mile	102	16	41	30	22
Non-Canal Villages.						
Dehli territory ...	...	68	11	33	28	11
High Dehli ...	...	34	8	37	31	29
REPORT OF 1867.						
Dehli Branch ...	Within half a mile...	6	61	32	20	63
	More than a mile ...	11	44	40	34	44
Bohtak Branch ...	Within half a mile...	2	41	36	36	31
	More than a mile ...	7	47	44	34	38
Butana Branch ...	More than half a mile	45	7	33	23	31
Between the Canals	...	8	47	54	41	66

Appendix.

Growth of irrigation.

Effects upon health and prosperity.

From a sanitary point of view he found a state of things existing "very much worse than that described by the Committee of 1847." He speaks of the miserable disease engendered by the tainted water and malarious exhalations of the soil; of the spectacle of sick women and diseased children crouching among the ruins of their houses (for in many cases the rafters had been sold), of haggard cultivators wading in the swamps, and watching their sickly crops, or attempting to pasture their bony cattle on the unwholesome grass.

Present condition.

In the beginning of 1877 Mr. Ibbetson, reporting on the assessment of the canal tract, wrote us follows:—

"The villages of the tract may be described under three heads. Those which, well removed above the influence of the *reh*, reap the benefits of the canal without being subject to its injuries, are eminently prosperous.

"Those villages, which, though out of the lines of drainage and swamp, are so low that their pastures are covered by *reh*, are far less prosperous. Their cultivation has decreased, and must decrease still further; the fertility of what remains has diminished; expansion is impossible; what little grass there is for the cattle weakens and kills them, and the water is bad for both man and beast. Where the village is large and well off, they have saved the mass of their cultivation from any very great deterioration, and the inroads of *reh* are chiefly confined to the edges. But where the community is poor, the whole cultivation has suffered, and the *reh* advances with accelerating impulse. It is, then, most important to assess lightly this class of villages, so that they may not be hampered in their struggle with the evil.

"As for the villages which lie in the drainage lines, or have low land near the canal, their state is pitiful indeed. Their early cultivation was, as is the case throughout the district, in the lowest parts of their area; and while the higher lands were becoming covered with *reh*, the stiff soil of the fields helped to preserve the lower from injury. But as the water-level rose, and swamps and soukage began to extend, they found their cultivation under water, while, turning too late to their high lands they perceived that they had become barren; and now they live a semi-amphibious life, their houses crumbling with the damp, crocodiles in their village ponds, the water in the wells so near that, as they say, they can 'draw water without a string,' their sickly feeble cattle obliged to leave the village during the rains, and they themselves suffering from all complications of malarious disease with an unbroken regularity. Year by year they sow rice with the certainty that only an exceptionally dry season can save it from being drowned, and that much of it must even then be injured by too much water; year by

year they watch the fields as they dry up, and rapidly passing a plough through the tenacious mud, sow their wheat and barley in the open furrows, till the very last moment when there is hope of their germinating, or even sow the seed on the unbroken mud, and plough over it when the ground is a little drier; and this in the knowledge that some of it will fail, that heavy rain will drown more of it, and that most of what does come up will barely repay the labour spent on it. Much of their land is sour and cold from being so permanently saturated with water that, though not under water, it cannot be cultivated; some of it perhaps is separated from their village by the canal, the nearest bridge being some miles off, and it being forbidden to take cattle to it along the bank. In a year of drought these villages no doubt reap splendid crops, but years of drought are fortunately the exception, and I think that the very largest allowance should be made for the circumstances of estates so situated.

"My experience of the tract was then limited to a probably exceptional series of seasons of full or excessive rainfall. Since then I have seen them during a series of, I hope, exceptionally scanty rain, and I think I exaggerated the average condition of the swampy villages. It would be difficult to exaggerate it as it is in really wet years."

General Stretchey did not speak one whit too strongly, when he said in 1867:—

"The portion of the canal near Karnal is a disgrace to our administration, and has been for years past. It creates most pestilential swamps which must be got rid of, unless we are content to perpetuate this abominable nuisance, which has been talked about for the last 25 years, during which period no serious attempt has been made to abate it. For my own part, I distinctly reject all share in any counsel which tends to delay in meeting this most crying evil. I most fully admit the great importance of doing what has to be done with the most scrupulous regard to economy, and I am ready to sacrifice all thought of elegance or congruity for the purpose of avoiding any considerable outlay, which is really not needed to secure efficiency. But it is impossible for me to affirm, with too great positiveness, the moral obligation which rests on our Government to put an end, with all possible speed, to the discreditable condition of the large tracts of land along the Western Jumna Canal, which are converted into swamps of the most pestilential nature, not only destructive to the health and life of the population, but occupying in a manner far worse than useless some of what might be the very best lands. It will be necessary to do something, and what is necessary should not be delayed till other works, which have no relation to this part of the scheme, are completed."

Appendix

Growth of Irrigation

Present condition

Appendix.
Growth of irri-
gation.
Present condition.

The new canal is now nearly complete; the re-alignment of the distributaries has already done much good, and the completion of the drainage scheme will doubtless go far to cure the evil of swamps. But the efflorescence will not be so easily got rid of; and it will, probably, be many years before this scourge is very materially decreased.

The above was written by Mr. Ibbotson eight or nine years ago. The following note by Mr. Higham, Superintending Engineer, Cis-Sutlej Division, shows what has been done to remedy the evils to which Mr. Ibbotson referred.

The new main line of the Western Jamna Canal, extending from Indri to Munak, was completed in 1883, and in August of that year the old canal between Indri and Rei was finally closed, and relegated to its proper position as a drainage line. The re-alignment of the distributaries has been since completed, and the obstructions to the free passage of the drainage caused by the old water-courses have been finally removed. Lastly the Karnal District has been provided with three main or arterial drains, two of which have been in full working order since 1887, though the third is not yet fully developed. The first of these, known as Main Drain No. I, comprises a length of the old canal from Budha Khora to Kharakali. The outfall channel leaves the old canal opposite Karnal in a north-easterly direction falling into the Budha Khora Escape of the Western Jamna Canal at Kutel, and thence passing onwards into the Jamna. Three minor tributary drains discharging into this main drain unwater the Karnal City and neighbourhood and the Buzida Jhil, and completes the drainage of the great bight of the Khadir lying between the Bāngar edge and the old canal, the whole condition of which has very materially improved since its construction. Main Drain No. II comprises a further length of the old canal from Kharakali to Rei, which drains the adjacent Bāngar villages. From Kutana the drain is connected by an artificial cut with the old Rei Escape, which has been enlarged and remodelled as far as Babail, four miles to the east of the Grand Trunk Road. From Babail the new drain leaves the line of the Rei Escape by a sharp turn to the south and eventually discharges into an old nullah below Chajpur, and so on into the Jamna at Khojkipur, 12 miles below Pāmpat. This drain passes into the Khadir at Mahomedpur, and receives the waters of the Ganda Nullah, or natural main line of the Khadir immediately above the point of crossing the Grand Trunk Road. Several other inlets are provided along its course both in the Bāngar and Khadir for the drainage of adjacent lands, while at its lower end the spoil on the left or eastern bank efficiently protects several villages from the overflow of the Jamna.

The third arterial drain, known as Main Drain No. III, or the Nai Nullah, will drain the lands to the west of the new main line and New Hattai Branch until it passes under the latter at Aam, a short distance above Sūsdan, in Jind territory.

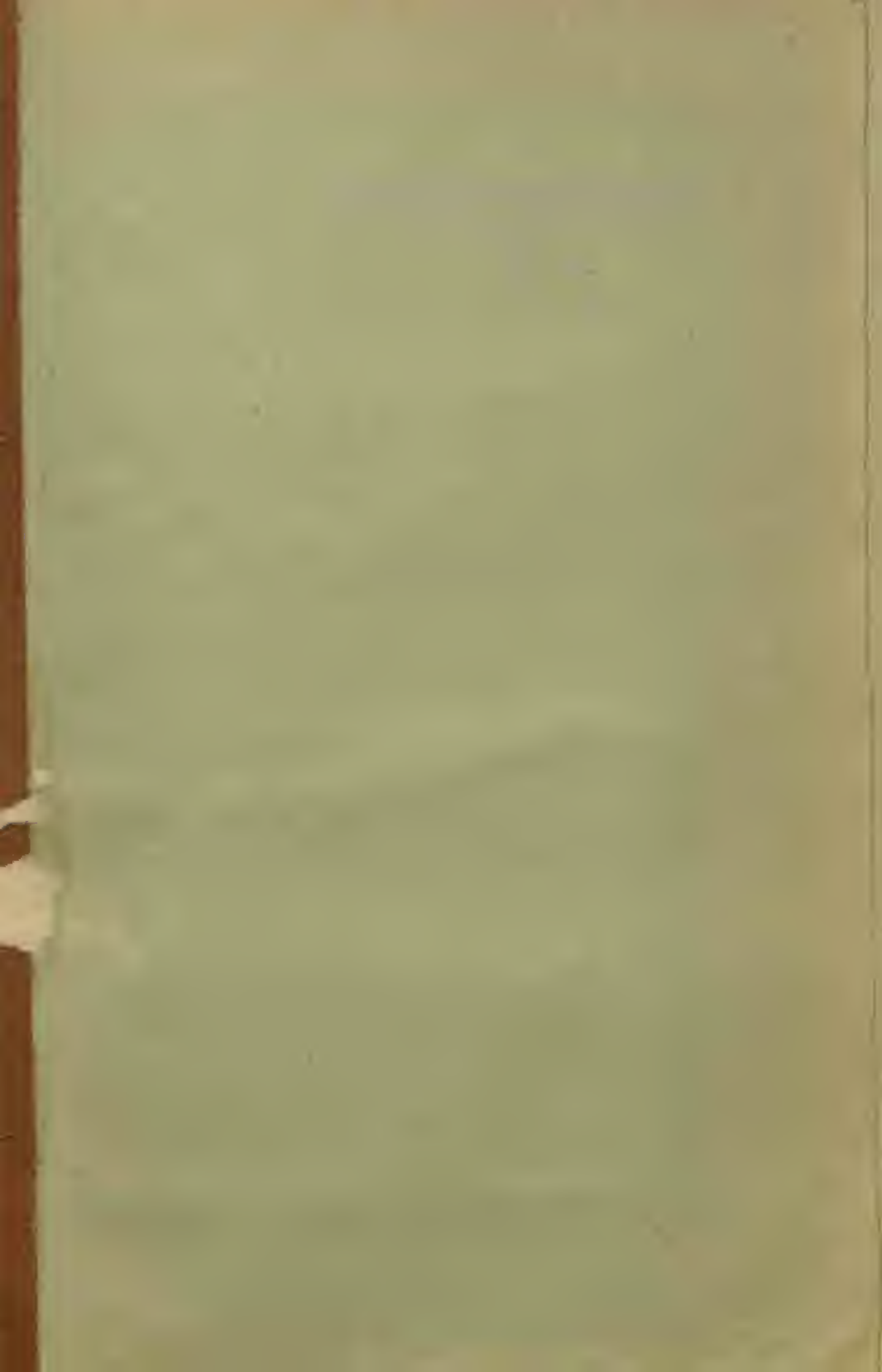
Below this point it unwaters the tract lying between the New Delhi Branch and the old Rohtak Canal, and constitutes a natural drainage line, which passes into the Rohtak District at Chichiana (when it is locally known as the Loti Nallah) running in a southerly direction through Gohāna and to the west of Rohtak, with an ultimate outfall into the lake north of Jhajjar, which communicates with the great Najafgarh Jhil in the south of the Delhi District. Until recently however the outfall below Gohāna was completely closed, and the efficiency of the Nui Nallah as a drainage line was limited by the capacity of the Rohtak Jhil above that town. By the completion of Main Drain No. VIII below Gohāna an efficient outfall has now been provided and the clearance of the upper part of the nallah and of a few subsidiary drainages alone remains to complete this third and important main drain, and with it the drainage scheme for the canal irrigated portions of the Karnal District.

Appendix

Growth of Irrigation.

Present condition.





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N. 7

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